THE CHEMIST AND DRUGGIST

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Pharmaceutical Society of Ireland.
South African Pharmaceutical Association.
Pharmaceutical Society of Natal.
Otago Pharmaceutical Association.
Pharmaceutical Society of Queensland.
Pharmaceutical Society of South Australia.
Pharmaceutical Society of Western Australia.
Tasmanian Pharmaceutical Society.

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EDUCATIONAL NUMBER.

The Editor will be obliged for any information in regard to arrangements for the coming session now being made by schools of pharmacy, chemistry, dentistry, and medicine throughout the country. The secretaries of local associations are also requested to communicate particulars or prospectuses of local classes specially adapted for pharmaceutical students.

Summary.

A well-known Bolton chemist has died through injuries received by a fall downstairs (p. 181).

The pharmaceutical assistants of Dublin have inaugurated an association among themselves (p. 182).

We print the names of those who passed the Preliminary examination in July; 209 out of 392 failed (p. 184).

The proceedings in regard to Bright's Pure Drug Company have been continued, and Mr. Justice Kekewich has given an order for the committal of Mr. Dickson (p. 231).

In trade circles there is very little doing just now, a circumstance which is due mainly to the holiday season. It is not expected that the drug-auctions will be held next week, or if they are, they will be light (p. 241).

The Annual Conference of the Association of Medical Herbalists has been held at Southport. The chief subject of discussion was opposition to the Medical Act Amendment Bill (p. 181).

Two of the actions brought by the British and Foreign Optical Company have been tried by a jury, who found for the defendants in the belief that the goods supplied had not been actually ordered by them (p. 230).

The Pharmaceutical Society of Ireland has at Dungannon prosecuted under the Pharmacy Act a druggist and his son for compounding prescriptions. The Magistrates fined the druggist 5*l.* and 1*l.* costs, the case against the son being dismissed (p. 232).

Although for the second week in succession we are compelled to publish a double number, we are unable to include in it all the interesting matter which we have in type. A number of letters and answers to correspondents are necessarily postponed.

The British Medical Association has met in London the week, and in connection with it there is an exhibition of medicines, medical appliances, pharmaceutical preparations, &c. We report this exhibition very fully, appearing a number of illustrations (p. 235).

Spiers & Pond have been fined under the Pharmacy Act for selling, without observing the necessary formalities, an arsenical weed-killer. Two other chemists have been prosecuted by the police, and fined for selling a poison to a person not known to the seller. The latter prosecution was undertaken by a coroner (p. 228).

Three Irish pharmacy cases of some importance are reported under Legal intelligence. At Dublin a lady who has bought a chemist's shop was prosecuted for compounding prescriptions. Her defence was that the assistant had in this matter acted contrary to her instructions. The case against her is adjourned; but a fine has been imposed on the assistant (p. 228).

At Leeds, Professor T. E. Thorpe, Director of the Government Laboratories, presided over the meeting of the Society of Chemical Industry, and delivered an address, in the course of which he referred to gas-enriching, the manufacture of glycerine, recovery of wool-fat, the progress of photography, and other subjects of technical interest. It was agreed that the next meeting should be held in London, and Mr. T. Tyrer was elected President for next year (p. 221).

A large section of this issue is devoted to a report of the British Pharmaceutical Conference, held at Bournemouth from Monday to Thursday. The attendance was over 120, and comprised many prominent pharmacists from all parts of the Kingdom. Mr. Martin delivered an address, in which he advocated better preliminary education, and higher technical education of pharmacists thereafter. In the course of Tuesday and Wednesday seventeen papers were read and well discussed. Liverpool was fixed upon as the meeting-place for next year, and Mr. Martindale as the President. The report commences on p. 186, and, as it is a long one, we give in our Editorial columns a concise summary of the communications (p. 222).

English News

The Editor is obliged to correspondents who send local newspapers containing items of interest to the trade. He will be further obliged if such paragraphs be marked in all cases.

Mr. Commissioner Kerr does not Believe the Advertisement.

In the City of London Court last week, the Gutenberg Press (Limited) sought to have Mr. H. C. Dean, of 36 Great Portland Street, Bloomsbury, committed to Holloway Gaol for the non-payment of 5*l.* 9*s* due to them for advertisements inserted. The defendant, who spoke with a strong American accent, said he was unable to pay the amount. His occupation was that of treating people for the complexion and the scalp, and he was also a manicurist. He also sold watches. He had advertised "I shall give away 5,000 sample watches."

Mr. Commissioner Kerr: You do not mean to say that anybody is such a fool as to believe that? Voltaire used to repeat the observation which a Chinese philosopher made 4,000 years ago that the world was composed principally of fools. The late Thomas Carlyle repeated that observation. I think it is proved to be so even at the present time, for every day we see around us that the world is still composed principally of fools. Any man of sense would see that this advertisement was perfect stuff and nonsense!

Mr. Levi, plaintiffs' solicitor, remarked that if there were fools and rogues in the world surely the rogues should be made to pay their debts.

Mr. Commissioner Kerr: Very likely.

The defendant said the statement that he gave away 5,000 watches was perfectly true. For every watch ordered of him he gave away one in addition. If he sold 10,000 watches he gave away 10,000 more.

Mr. Commissioner Kerr: You may say that, but nobody believes you. After statements of the defendant's expenditure had been made, the learned Commissioner said he could make no order, as there was no evidence of the defendant's means. He could only commit a man if he had means, and he would think that the defendant had no money at all. At the same time the plaintiffs, as newspaper proprietors, should be careful what rubbish they inserted, because they were a party to a fraud on the public by inserting advertisements such as the one to which attention had been directed.

Cleaning the Windows.

A boy named Smith was cleaning the inside of the shop-windows of a drug-store at Ealing, on July 23, and to reach the upper part he had to lean over the glass window-case. He knelt on this sheet of glass, which suddenly broke under him, and he fell head-foremost to the bottom of the window, in his fall displacing a large number of bottles, and smashing the glass shelves fitted into the window space. For some minutes he lay senseless, covered by the wreckage. It was found impossible to get him out at the back, and when it was seen that he was bleeding freely from several wounds, two or three of the spectators smashed the large plate-glass window with their walking-sticks and dragged him out. He was still unconscious, but after a time he came round, and it was found that the cuts he had sustained were superficial. The damage done is estimated at over 20*l.*

Suicide of a Chemist.

At the Clerkenwell Coroner's Court, on July 25, Mr. H. R. Oswald, deputy-coroner, held an inquest concerning the death of Herbert Horace Ridley, aged 38 years, a chemist, lately residing at 71 Myddelton Square, E.C., who committed suicide on the previous Sunday. Mrs. Frances Elizabeth Ridley, the widow, stated that she went out shopping with her husband on the Saturday, and upon returning home at 10 P.M. they quarrelled about a soda-water syphon which she said she had sent back, and the deceased said she had not. She thereupon told him that if he was going to be cross she would go out, at the same time putting on her cloak. She did not return till twenty minutes past twelve on the following afternoon, and she then found her husband apparently asleep on the bed. Upon kissing him, however, she discovered that he was dead. By the Coroner: They had had previous quarrels, and she had left the house several times before. The deceased had lately been very eccentric and irritable. It appeared from further evidence that the deceased had drunk from a bottle a large quantity of prussic acid, which had been kept in the house for the purpose of killing animals. The jury returned a verdict of suicide while of unsound mind.

New Chemical-works.

Messrs. Brunner, Mond & Co. have just completed the purchase of extensive premises in the neighbourhood of Middlewich for the purpose of extending the chemical trade.

What was in the Medicine.

An inquest was begun at Paddington on Wednesday regarding the death of Henry Robinson, 37, a carman. Deceased complained of pains in the head, and on Wednesday last week obtained medicine from a doctor. As it made him worse he refused to take it after the first day. On Saturday he fell off his waggon, and was taken dead to St. Mary's Hospital. A doctor from the hospital said deceased was not injured by the fall. The intestines presented symptoms similar to those caused by an irritant poison, and the stomach showed signs of morphine. The inquest was adjourned for an analysis of the contents of the stomach.

Got What He Wanted.

At Whitehaven Petty Sessions on July 23, the boy Wm. Wrangham, who a fortnight ago was before the same Bench on a charge of stealing money from the cashbox of Mr. Fredk. Patman, chemist and druggist, King Street, Whitehaven, was again brought up charged with being on Mr. Patman's premises for an unlawful purpose. The lad was found in the back yard, and, on being questioned, coolly said, "I was going to break into Mr. Patman's house. I want to be caught, for I want to be sent away." The Bench ordered the boy to be sent to a reformatory for five years.

Preserving Vegetable Products.

At the annual conference of the Museums' Association in the Physical Lecture Theatre of the Durham College of Science, Newcastle, on Thursday morning, July 25, Mr. E. M. Holmes, F.L.S., of the Museum of the Pharmaceutical Society of Great Britain, read a paper "On a New Preservative." He said that during the last two or three years a powerful preservative, disinfectant, and deodorant had been introduced, under the name of "formalin," to the notice of the medical profession, and still more recently it had been recommended for the preservation of museum specimens of both plants and animals. His own experience with the new fluid was comparatively small; but he ventured, nevertheless, to direct attention to its known and possible advantages, as it did not appear to be so well known as it deserved. Formalin consisted of a 40-per-cent. aqueous solution of formic aldehyde. At present its cost was about equal to that of methylated spirit. The 40-per-cent. solution was the strongest that could be made to keep satisfactorily. At ordinary temperatures formalin gave off the vapour of formic aldehyde, which was somewhat irritating to the nostrils when inhaled, but all trace was removed by sprinkling a little ammonia. For preserving vegetable products, a solution containing from 1 to 2 per cent. of formic aldehyde had been found to answer all purposes. For some plants, however, it was not quite strong enough. In some cases very little of the appearance of the fresh plant was lost. Further experiment as to the best strength to use in different cases was still needed. It was said that fish and small animals could be preserved for an indefinite period in a 40-per-cent. solution, even the irridescent appearance of the scales or skin being preserved as in life. He had had no experience with animal substances himself, but Mr. Forbes informed him that it succeeded admirably in many cases, although not with crustaceans. One of the most remarkable properties of formic aldehyde was its action upon gelatine. After about twenty-four hours' exposure to the vapour of a 40-per-cent. solution, gelatine not only became insoluble in water, but lost its property of melting when heated, so that, even when placed in the flame of a Bunsen burner, it only charred, but did not melt. Although rendered insoluble in water, it did not lose its transparency. This property had been turned to account in the preservation of cultivations of bacteria in nutrient gelatine for biological specimens. Formalin had also a peculiar effect upon the skin of animals. It had been found that repeated applications to the ear of a rabbit caused the part to dry up and form a substance like papier-mache, which ultimately fell off, without causing bleeding. It did not appear to interfere with the staining of tissues in aniline dyes, and, therefore, from its action on gelatine, it was evident that it might prove very valuable for preserving microscopic slides mounted in gelatine.

The Bold Allopath.

In Archdeacon Groome's "Reminiscences" there is a story of a well-known Suffolk doctor who had a great contempt for homœopathy. One day he was called in to see an old lady, who pinned her faith in Hahnemann, who had taken five globules in mistake for three. Dr. Belman, when he arrived, and on being told what she had done, looked very grave, and, shaking his head, said, in a solemn manner, "If people will meddle with dangerous drugs, they must take the consequence. However, madam," he added, "to show my sympathy for you, I will die with you"; and, lifting the bottle of globules to his mouth, he swallowed the entire contents.

Coca-wine and the Cocoa-tree.

At the Manchester County Court last week, James Macdonald, litho printer, sued Ellis Tootill & Son for 5*l.* 10*s.* for the execution of a showcard representing the merits of a certain coca-wine. For the defence, it was contended that the whole card was wrong from top to bottom. The plaintiff bordered the showcard with a counterfeit presentment of the cocoa-plant, instead of the coca-plant. He wanted the words inserted, "Invaluable to public speakers." His Honour: Was that in view of the General Election? (Laughter.) Other complaints of the card were made; but the plaintiff said it was executed in accordance with a rough sketch which had been submitted to the defendants. Eventually his Honour, after carefully examining the showcard, and comparing it with one which had been executed by another artist, nonsuited the plaintiff.

Chemist's Assistant in Trouble.

James Dunn, a chemist's assistant, was summoned at Birmingham, on July 22, for stealing 20*s.* from the safe of Messrs. Tamsdale, of 59 Colmore Row. Money having been missed, Detective Richardson secreted himself in a cupboard, and, after a watch of three nights, detected accused abstract the money. He was sentenced to two months' imprisonment with hard labour.

Carbolic-acid Poisonings.

An inquest was held on Thursday last, at the Railway Hotel, Brentwood, on the body of Louisa Sophia Bury, aged 36, married, who poisoned herself with carbolic acid. The jury returned a verdict of suicide whilst temporarily insane.

Recreations of a Sheffield Chemist.

Mr. Walter Reckless, chemist and druggist, Exchange Street and Cemetery Road, Sheffield, has been unpleasantly interfered with in taking his recreations. On July 25, there were a number of respectable tradesmen, merchants, and working men engaged in the favourite pastime of "heads and tails" on Queen's Grounds, Barnsley. A ring was formed, and a man in the centre threw half-pennies into the air, and people round bet from 1*s.* to as much as 3*l.* on "heads" or "tails." Sometimes as much as from 20*l* to 30*l.* was on the ground at one time. Complaints had been made to the police, and on the day named they "raided" the grounds and conducted thirteen of the offenders to the police station. Amongst them was Mr. Reckless, and when he came before the Bench on July 29, he, like the others, was fined 2*l.* and costs.

Brought up Eleven Children on Laudanum.

At the Sheffield Stipendiary Court on July 26, William J. Holberry, a collier, and Betsy Holberry, his mother, were charged at the instance of the National Society for the Prevention of Cruelty to Children, with having neglected and starved a child, aged nineteen months, the daughter of the first named defendant. Mr. Arthur Neal, who prosecuted, stated that the child had not only been starved and kept in an abominably filthy condition, but it had been systematically dosed with laudanum, and at the time it was taken possession of by the Society, was practically dying from opium poisoning. Evidence showed that the baby was kept in a very filthly condition, and that every night as it went to bed, was given 10 drops of laudanum.

Holberry, who spoke with great indignation, stated that his wife and he had brought up eleven children, all of them on laudanum. It did them no harm but helped them to sleep at night when teething. The prisoners were committed for trial.

Fires Prevented.

A fire broke out lately on the premises of Thomas Tyrer & Co., Stirling Chemical Works, Stratford. It was soon put out, and but little damage was done. One of the horses of the West Ham Fire Brigade fell dead through breaking a blood-vessel on ascending the incline of the bridge at full speed.—There was a large fire in Coleman Street on July 26, and it came next door to the premises of Messrs. Burgoyne, Burbiges, Cyriax & Farries, but the fire brigade succeeded in arresting it before any part of the drug warehouse was attacked.

No Company.

The case of Ford, Shapland & Co. *v.* The London and Suburban Pure Drug Company came before Judge Smith, Q.C., on Tuesday, in the Westminster County Court, and was an application by the plaintiffs to substitute the name of Marston for that of the Company, on the ground that there was no company, Mr. Marston having failed to float the business as a company, and the fees for shares had all been returned. His Honour refused the application, stating that the matter must be commenced *de novo.*

Conference of Medical Herbalists.

The thirty-first annual conference of the National Association of Medical Herbalists of Great Britain (Limited) was held at Southport on July 25. There was a large gathering of herbalists from various parts of the northern and midland counties, and the chair was occupied by Mr. A. R. Fox, of Sheffield. The Chairman said they had a great battle before them—a greater battle than they had twelve months ago. With a change of Government they had new members to educate to their views, while the orthodox medical men had been striving to get doctors elected to Parliament, irrespective of the party to which they belonged, in order that a new Medical Act Amendment Bill might be passed. They must prevent that Bill from becoming law, and the fact that they have recently become an incorporated body would allow them to use their registered name, notwithstanding that one of the clauses in this Bill was to the effect that no one should call himself a medical herbalist. They had thus stolen a march upon the framers of the Bill, and when it was brought forward in Parliament they would be prepared to present petitions against it. Several members gave the names of recently-elected M.P.'s who have promised to vote against any Bill which would treat medical herbalists unjustly. The Chairman was re-elected President, and Mr. John Simmonds, of Southport, was re-elected editor of the journal of the Association, viz., the *Botanic Practitioner*, and he was awarded an honorarium of 5*l.* for his past services. It was agreed to hold the next conference at Hull.

Fatality to a Well-known Chemist.

At Bolton, on Thursday, July 25, an inquest was held regarding the death of Mr. Jas. Wallwork Forbes, aged 72, a well-known chemist, formerly carrying on business at 65 Newport Street, in that town. Mr. Forbes died at midnight on July 23, as a result of injuries sustained during the early hours of the preceding Saturday. Mr. Forbes was very well known to all who attend the meetings of the British Pharmaceutical Conference and the annual meeting of the Pharmaceutical Society. Since the Conference was founded he had, we believe, attended every meeting, and in order to do so, he affixed a notice to his door to the effect that he had gone to attend the Conference in whatever town it was being held. It appears from the evidence given at the inquest, that the deceased had been suffering from bronchitis and lung complications for some eighteen months, and when unable to sleep was in the habit of going downstairs for his soothing draught—chloral. He retired to rest early the previous Friday night, and was discovered early the next morning lying at the foot of the staircase with his head resting on the stairs, having evidently slipped while walking down. He was conscious at the time. The Coroner remarked that Mr Forbes was as "decent" a man as had lived in the town. When he (the Coroner) last saw him he was on the way to the polling-booth to record his vote. On the Coroner's suggestion a verdict of death from natural causes (probably concussion of the brain) was returned. Mr. Forbes had been in business in Bolton for almost fifty years, and during that time he had several ups and downs. But his straightforward honesty and bluff English manners endeared him to many in the trade. His sudden death gave rise to much comment at the Bournemouth Conference, and not a few who had looked forward to see him were deeply pained to hear of his decease.

An Inland Revenue Suit Withdrawn.

Two adjourned summonses against Mr. Edwin Croft Middleton, of Burlington Lane, Chiswick, for selling a box of "Universal Ointment" without a licence, and also without a stamp, were set down at the West London Police Court on July 23. On the case being called it was stated that the Excise had withdrawn it. The defendant, however, appeared, and said he had received notice. Mr. Curtis-Bennett: I suppose you have taken out the licence? The Defendant: No, sir. They have found they are wrong. They took proceedings against me in the Court of the Queen's Bench, and brought me here. In both instances the proceedings were withdrawn. The letter from the Excise authorities was read stating that they did not intend to proceed with the case. Mr. Curtis-Bennett: They don't say they are wrong. The summonses were then withdrawn.

Drugs from the Local Druggists.

At a meeting of the Newport Board of Guardians, the Rev. E. Ayliffe suggested that in future all contracts for drugs should be given to local tradesmen. The Chairman did not see why that should be done, seeing that the Board were in the habit of getting their drugs from the same source as the local chemists. After some discussion however, Mr. Ayliffe's suggestion was put in the form of a motion, and carried. In future, therefore, local druggists will be asked to tender for the supply of drugs to the Union.

Kissing a Chemist's Wife.

In the Civil Court at Leeds Assizes, Mrs. Maria Clarke, wife of a chemist and doctor of medicine of the United States practising in Harrogate, sued a Mr. Birkenshaw, a builder of the same town, for damages for assault. She alleged that in a house which she was looking over for a friend, the defendant suddenly put his arm round her and kissed her. The defendant denied this story, but said Mrs. Clarke was proceeding upstairs, and at the top of the first landing she tripped and fell back towards him. All he did was to put his hands up to support her and prevent her from falling. The jury returned a verdict for the plaintiff for 5*l.*

A Chemist on the Antitoxin Treatment.

Mr. George Eade, pharmacist, of Goswell Road, speaking at a meeting of the Holborn Board of Guardians on Wednesday, said that if antitoxin were left alone it would die a natural death. He did not believe in this system of treating diphtheria; and, after the resolution of that Board, and the opinion of such an eminent medico as Dr. Lennox-Browne, did not see the use of bringing up the question again. It was one of those fads brought up by members of the medical profession which should not be allowed. Speaking also as a member of the Metropolitan Asylums Board, and knowing what had been done to obtain the serum, he did not think it either creditable or humane. The Board decided to take no further action on the subject.

Irish News

The Editor is obliged to correspondents who send local newspapers containing items of interest to the trade. He will be further obliged if such paragraphs be marked in all cases.

Death of a Druggist Cyclist.

Mr. E. J. Barry, an assistant in Messrs. Thacker and Hoff's, chemists, Dublin, was riding home on a bicycle on July 23, and when passing Gardiner's Row about half-past six o'clock was observed to jump off the machine and rush into the establishment of Messrs. Wyse & Co., druggists. Blood was streaming from his nose and mouth. On entering the shop he endeavoured to speak, but was unable, and rushed behind the counter apparently to procure some drug. While doing so he fell heavily on the floor, and died a few minutes later. Dr. J. Kenny, M.P., was hastily summoned, and arrived quickly from his residence a few doors off, but only in time to witness the unfortunate man giving his last gasp. The probable cause of death was rupture of a blood-vessel.

Said he was a Druggist.

Andrew Millar was put forward last week at the Summer Assizes charged with having obtained six sacks of linseed from Mr. Patrick McGilligan, wholesale dealer, Coleraine, by falsely representing himself as a retail druggist and hardware merchant, Claudy, Portglenone. The prisoner, who is at present undergoing a term of imprisonment for a similar offence, was brought up on *habeas corpus*. The Judge charged strongly against Millar, but the jury disagreed. The prisoner was put back to the next assizes.

Business Changes.

Mr. W. C. Spencer, of Messrs. Boileau & Boyd's, Dublin, is about to open a drug-establishment in Mary Street.

A Bogus Chemist.

Edward Morgan, *alias* "Dr. Morgan, F.I.C.," analytical chemist, Crewe, was last week indicted at the Cork Assizes for swindling traders and obtaining money under false pretences. The prisoner's *modus operandi* was to introduce himself to chemists as the discoverer of a new method of photographing in colours, and to secure money on account in consideration of appointing them his agents. In this way he succeeded in duping various traders throughout the country, including several hotel-keepers in whose houses he stopped. The prisoner was identified as having been formerly convicted in Glasgow, and imprisoned for the larceny of 51*l.* worth of platinum. He was sentenced to twelve months' imprisonment with hard labour.

Is St. Patrick Exhausted?

A poisonous snake, measuring close on four feet in length, was found last week in a field in Cork.

Pharmaceutical Chemists' and Apothecaries' Assistants' Association of Ireland.

At Dublin, on July 24, the opening meeting of this newly-formed association was held at the XL Café, Grafton Street. The chair was taken by Mr. D. O'Sullivan, who mentioned that a circular had been sent to a few representative assistants in the city inviting their support of this new organisation. The conception of the society was due to Dr. Falkiner, who, some six months ago, at the winter lectures, said it would be very desirable to found an assistants' society, which he would support if started. He believed there was a feeling abroad that the association was started in opposition to the employers. He wished to say that the association was formed to strengthen the friendly relations of employers and assistants, as a mutual improvement society, where the members could meet periodically and entertain one another with scientific lectures, in social and literary pursuits, and to otherwise uphold the best traditions of the honourable profession which they represented. He contrasted the kindred societies throughout England as examples to follow. Mr. Hardy consented to act as hon. secretary *pro tem.*

Mr. Meyrick, to whose exertions the association owes its birth, said he hoped to see shortly a news-room in connection with the association, to have their own premises, and, later on, an employment registry on the lines suggested recently by a gentleman connected with the Pharmaceutical Council, but conducted by the association. He thought the profession was as competent to form a good society as the ironmongers or drapers, who had their athletic sports yearly, and who otherwise enjoyed the result of combination. The suggestion had been made to include drug-assistants in the association; but, whilst he was personally in favour of a general amalgamation of all branches of the drug and chemical trade, he thought such a fusion would be followed by unpleasant results, and in the end they would please nobody.

After it had been resolved by vote that the association be confined to pharmaceutical chemists and apothecaries, their assistants and apprentices, the chairman invited signatures to the roll of membership, and subsequently read the names of twenty-two gentlemen who had agreed to join the association. The following were elected a provisional committee:—Messrs. Abster, McCarthy, O'Sullivan, Meyrick, Gillespie, Kelly, Robinson, Payne, Parker, Griffiths, Glover, Macklin, Corcoran, and Hardy. Arrangements were made to hold a general meeting on July 31.

At a committee meeting held afterwards, Mr. Alister, M.P.S.I., was elected chairman, Mr. Hardy vice-chairman, Mr. Meyrick secretary, and Mr. Payne treasurer.

Sequel to the Barnes Prosecution.

Mr. John Frederick Corcoran, registered druggist, lately employed as an assistant at Atkinson's Pharmacy, Harcourt Road, Dublin, has been served with a summons by the Pharmaceutical Society of Ireland, to appear at the Southern Divisional Police Court on August 1, to answer the charge of illegally compounding a medical prescription on June 10 last, he not being qualified to do so, and in contravention of the Pharmacy Act (Ireland), 1875, Section 30.

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A New Venture

Mr. W. B. Cowie, pharmaceutical chemist, and Mr. Alex. Johnston, teacher in science and art, Edinburgh, are making arrangements for conducting pharmaceutical classes. They propose to acquire central premises for class-rooms and a laboratory, and to open in September.

Weed-killer in the Streets

The Thurso Commissioners, who watered their streets with an arsenical weed-killer, and thereby caused serious illness to several cows who ate some of the poisoned grass on the roadside, have paid the owner of the cows 15*l.* as compensation for loss of milk, injury to the animals, and expenses. The cows all recovered under treatment.

WE FANCY WE'VE SEEN IT BEFORE.—Talking of Beecham's pills, writes a paragraphist, reminds me of an amusing incident in connection with that firm. A chemist owed the firm the sum of 1*l.* 16*s.* 8*d.* In payment he sent one box of Beecham's pills (worth a guinea a box) and a cheque for 15*s.* 8*d.* Beecham replied, "Very good, but don't do it again."

French News.

DECORATION FOR AN AMERICAN CHEMIST.—The Minister for Foreign Affairs has conferred the Legion of Honour upon Mr. Henry Joseph Odet, the American citizen who directs the "Société des Sulfures de Carbone du Centre."

A DEPUTY'S DISCOVERY.—Dr. Frébault, one of the Deputies for Paris, has presented to the Academy of Medicine a sealed paper containing a note relative to the treatment of diphtheria, which that body has consented to take into its custody.

ARTIFICIAL LEATHER.—The *Revue Industrielle* gives the following recipe:—Take vegetable parchment—*i.e.*, paper or cellulose treated by sulphuric acid—roll it while still damp with paraffin wax and stearine, and add a little glycerine and chloride of calcium to ensure suppleness; dry, size, and varnish.

MORE HONOURS FOR PROFESSOR RAMSAY.—The European Commission for the award of the "Hopkins" prize of 2,000*l.* for the best note on the constitution of the atmosphere has pronounced in favour of Professor Ramsay and his colleague, "Lord Raileigh," as the French journals call him. This award has yet to be ratified by the Smithsonian institution.

ANALYSING GRAPES.—It is curious that among all the recent analyses of wine no one has thought of systematically analysing the various grapes from which it is produced. MM. Aimé Girard and L. Lindet have chosen twenty-five specimens of the most generally used grapes in the great wine districts of France, and have completely analysed the pulp, skin, seeds, &c., of each. They have presented a short *résumé* of their work to the Academy of Sciences, reserving their study *in extenso* to appear in the "Official Bulletin of Agriculture" at a later date.

A HAIRDRESSING RISK.—A curious case of homicide by imprudence came before a Paris Police Court last week. A lady, desiring the services of one of his assistants to dress her hair one evening, M. Lepain, perfumer, sent a hairdresser named Ruffier to Madame G.'s house. Ruffier was using a somewhat inflammable shampooing mixture in too close proximity to a lamp, and the liquid on the lady's hair caught fire. Her head was so severely burned that Madame G. succumbed the day following. The Court sentenced Ruffier to three months' imprisonment and a fine of 12*l.*, but allowed him to benefit by the Berenger (First Offenders) Act. M. Lepain was declared civilly responsible.

ARSENIC IN IMPORTED HIDES.—Professor Riche has made his report to the Committee of Hygiene of the Department of the Seine on the danger of arsenic contained in imported hides. The soaking of South American and tropical hides (generally preserved for the voyage by arsenical preparations) presents little danger to the tanners. But the labourers who unpack and handle the hides while yet dry are liable to skin-diseases, ulcerated hands, &c. A still graver danger is present in many cases, for when the animals have been attacked by anthrax the arsenical preparations do not destroy the risk of infection to human beings, as Dr. Proust's experiments on guinea-pigs have proved. Professor Riche recommends that workmen who have to handle these hides should take precautions, and that careful disinfection should be observed. He also recommends that sulphide of sodium should be substituted for arsenic in leather-dressing and morocco-work.

"OLD COGNAC" BOUQUET.—The Academy of Medicine at its last session resumed the discussion of the alcohol question, alluded to in our last week's issue, and M. Laborde continued his interesting, if somewhat lengthy, speech. He gave an analysis of the artificial essence known as "bouquet de Cognac." M. Ch. Girard had discovered, said the speaker, that this liquid is composed of castor oil, cocoanut oil, and similar fatty substances treated with nitric acid. As to its deadly effects, 1 or 2 centigrammes injected into a large dog of the Newfoundland breed caused death in less than a quarter of an hour! Alcohol (malt or molasses) is flavoured with this attractive mixture, and labelled and sold as "old Cognac." M. Laborde also cited the "pure Jamaica rum" sold by an English house, of which a careful analysis, made by the late Professor Georges Pouchet, gave similar results

He pleaded that the army should be supplied with pure alcohol, and carefully guarded from such deleterious spirits as were too often sold.

SERUM-THERAPY.—The observations of M. Proust (reported in our issue of July 13) on the death of a child, presumably the result of the injection of serum, have called forth a somewhat warm protest from Dr. Roux. "M. Proust," writes the doctor to the *Bulletin Medical*, "appears not to have noticed for a moment the insufficient diagnostic, the incertitude necessarily existing when no *post-mortem* examination has taken place, the absurd improbability of the fact that 10 c.c. of serum should kill a child, when thousands and thousands have harmlessly received far larger doses. . . . Why does M. Proust suppose the serum to be stronger in action now than last October; and what experiments authorise him to establish a parallel between the strength of the serum and its toxic effects? These conclusions of MM. Moizard and Proust," protests Dr. Roux, "scientifically indefensible . . . condemn to death a number of children. Their counsels will be followed, the injections will be delayed, and you will see the figure of mortality mount. It is for this, and this alone, that I cannot keep silence; and I cry with all my force to the doctors, 'Listen neither to M. Moizard, M. Le Gendre, or M. Proust! The serum may cause temporary eruptions; but it is not dangerous—it is not fatal.'"

CORNISH KAOLIN IN FRANCE.—There is a considerable export-trade of kaolin from England to France, in spite of the French duty of 3.50f. per ton. No fewer than forty-three British ships laden with kaolin arrived at Rouen last year. Kaolin is a clay derived from the decomposition of one of the chief constituents of granite—feldspar—from which the soluble constituents have been carried off in chemical combination with the carbonic acid of rain-water, and the insoluble, silica and alumina, have remained, and, being washed down, form the clay known as kaolin. It is, therefore, chiefly found in the neighbourhood of granite mountains, and thirty-eight of the British ships referred to arrived from Cornish ports. The remaining five came from Poole, which provides also from the eocene beds in its neighbourhood a kaolin of slightly less pure quality. A large proportion of these cargoes are sent right across France into Alsace by the canal that joins the basin of the Seine to that of the Rhine, crossing the valleys of the Meuse and Moselle, a distance of over 700 kiloms. by water. In France kaolin is extracted in the Department of the Somme, and at St. Yrieux, in the Haute Vienne The porcelain industries of Limousin owe their existence to the extensive deposits of kaolin, due to the decomposed granites and pegmatites of that neighbourhood, and more than 20,000 tons are extracted there annually.

Pharmaceutical Society of Great Britain.

FIRST EXAMINATION RESULTS.

THE report of the College of Preceptors on the examination held on July 9 shows that 392 candidates presented themselves, of whom 209 failed and the following 183 passed:—

Allen, Percivale Knight, Chobham
Arber, Alfred Preston, Malvern
Atkinson, Wilfred W., Southampton
Bailey, John Herbert, Nottingham
Barker, Alfred Percy, Barnsley
Barker, Percival O., Cambridge
Barr, Annie Millar, Gourock
Barstow, Stuart G., Pontefract
Beeston, Arthur Edward, Norwich
Behenna, John S. R., Plymouth
Benham, Reginald R., Chichester
Berry, William, Market Harboro'
Bill, Albert Thomas, Jarrow
Blackburn, Oswald V., Selby
Blackburn, S. R., Newcastle-on-Tyne
Booth, James H. L., Southport
Bowen, Thomas Charles, Kilburn
Browne, Arthur H., Eastbourne
Browne, James L., Liverpool
Challinor, S. G., Stoke-on-Trent
Chambers, Charles Ward, Goole
Child, Grahame S. C., Newnham
Clark, Peter Livingstone, Dundee
Clarke, Harry Allanson, Skipton
Clarkson, H. W., W. Hartlepool
Clegg, John Willie, W. Melton
Cooke, Cyril J., Portsmouth
Copland, John, Aberdeen
Cotterill, Alice Beatrice, Congleton
Craig, James Christison, Brechin
Crooke, Olive Louisa, Edinburgh
Cuthbert, James M., Edinburgh
David, Griffith T., Aberdulais
Davies, Wilfred S., Paddington
Davison, Joseph, Spennymoor
Dean, Oswald Stuart, Chesham
Dell, Walter John Webber, London
Donaldson, Robert Muir, Edinburgh
Donellan, Frank, Crewe
Doughty, Frank William, Hull
Downing, Percy, St. Austell
Elliott, John, Wallsend
Eunson, James, Kilsyth
Evans, Harold N., Manchester
Evans, James L., Coatbridge
Fisher, William E., Wimblington
Fletcher, Edward Norman, Halifax
Flett, William, Kirkwall
Ford, Francis W., Birmingham
Gateuby, Robert S., Bridlington
Geddes, Charles S., Aberchirder
Geekie, John McD., Corstorphine
Gilman, William R. A., Accrington
Glen, Arthur Guthrie, Ardrossan
Golden, William H., Southampton
Green, William Edmund, Swaffham
Grimwade, Alfred E., Colchester
Hadfield, Fred, Holme
Hall, James Charles, Blackpool
Hampson, Adam, Westhoughton
Harper, John William, Elgin
Harries, Joshua H., Penybont
Hartley, Charles Quarmby, Leeds
Henry, Oswin Cyril, Durham
Hoadley, Arthur James, Rotherfield
Hodge, William H., Wolverhampton
Hogg, George Templeton, Medomsley
Holborow, Francis Ernest, Bristol
Holland, Frank W. C., Tamworth
Holyoak, Frederick H., Leicester
Hopkins, Edgar, Guisborough
Hopps, William T., Leamington Spa
Hough, Ralph, Wigan
Hunt, F. E., Wellington (Salop)
Hunter, John, Edinburgh
Irving, Francis, Skipton
Jack, William John, Lochgilphead
Johnson, John Ernest, Ventnor
Jones, David Charles, Guilsfield
Jones, James, Carmarthen
Jones, John, Llanfaglan
Jones, Rachael Ellen, Llanybyther
Kelsall, James, Bolton
Kelsey, Harold M., Middlesborough
Lacey, Edgar Hiram, London
Lamb, Lauchlan S., Edinburgh
Lea, Frederick, Market Drayton
Livesey, George S. T., Bradford
Llewellyn, William M., Clydach Vale
Lloyd, Bertie Taylor, Aberystwith
Lloyd, Edward Neville, Bridgend
Longley, Richard Samuel, Wombwell
Lovegrove, George E., New Barnet
Lowes, F., Richmond (Yorks)
Lunan, Alexander G., Banchory
Mackie, Alexander, Old Meldrum
Mackie, William Dingwall, Crieff
McMillan, George, West Benhar
McMillan, R. G., Broughty Ferry
Main, Alfred, Gateshead
Makepeace, H. B. W., Swanley
Mallinson, G. A., Heckmondwike
Mapei, Luigi Enrico, Golborne
Marsden, Charles Cecil, Leeds
Marsh, Percy Charles E., London
Martin, Thomas S., Grangemouth
Martin, William, Haslington
Mattock, William Henry, London
Meadley, George Holmes, Sheffield
Meredith, Walter Cecil, Nantmel
Millar, Alexander, Crieff
Moss, Arthur, Manchester
Munnoch, Robert L., Edinburgh
Munro, Cameron, Banff
Newton, Albert, Stalybridge
Nichols, Theophilus Henry, London
Noble, Alfred Grange, Stamford
Noddings, Arthur W., Boston Spa
North, Henry Howard, Grantham
Oatley, Thomas James, Chorley
Oldham, Thomas May, Nottingham
Osborne, John Alfred, Long Eaton
Park, David Scott, Sunderland
Patridge, Ernest W., Liverpool
Peasgood, Harry, Stamford
Plummer, Richard K., Thirsk
Powell, William Guy, Egginton
Pulpher, Arthur W., Raunds
Raspass, Thomas H. W., Barnsley
Rees, Rees, Pyle
Richards, Shelley, Shaftesbury
Roberts, Arnold, Moreton-in-Marsh
Robertson, Charles, Carnoustie
Robertson, William, Edinburgh
Rogers, William E., Worksop
Rough, Alfred James, Camborne
Sandy, Robert, Liverpool
Saunders, C. G., Walthamstow
Sendall, Charles E. J., Preston
Shaw, John, Fife Keith
Shearman, C. W., Great Yarmouth
Shirras, A. W., Newburgh-on-Tay
Sinca, Reginald A., Wilton
Singleton, R. A. C., Guernsey
Smyth, Ethelbert, Exeter
Spencer, Edward Scott, Oldbury
Stevens, Harold B., Long Eaton
Stott, Oswald, Thirsk
Stubbs, William C., Easington
Taylor, Charles Lister, Liverpool
Taylor, George Alan, Brinsley
Taylor, Samuel, Bradford
Teasdale, Harold, Manchester
Terry, John Smithson, Gravesend
Thomas, Alfred W., Plymouth
Tipping, Albert James, London
Tozer, Robert Maitland, Brighton
Turner, Andrew H., Manchester
Turner, Arthur C., Oldham
Vickers, William A., Liverpool
Walker, George Lister, Bradford
Walker, William, Banff
Walls, William, Dundee
Wannop, Joseph B., Carlisle
Warburton, F. E., Sunderland
Ward, Edward, Northampton
Warren, Richard B., Blandford
Watson, George, Kirkby Stephen
Watson, William A., Inverness
Watts, John William, Anerley
Webb, Harold E., Chislehurst
White, Percy F., Liverpool
Whitley, David Robert, Rhyl
Whittaker, Frank, Burnley
Wilde, Samuel T., Bexhill-on-Sea
Wilkie, William Bennett, Dundee
Wilkinson, John Henry, Leeds
Williamson, James A., Burghead
Wilman, Francis A., Bradford
Wixey, Lewis E., Chipping Campden
Wolseley, Gertrude I., King's Norton
Woodhead, Stanley H., Liverpool
Yeomans, Frederick A., Warrington

AT THE STATIONER'S COUNTER.—Muddle-headed Servant Girl (who has had directions to go to the chemist's and the stationer's): "A quire of sciatica-paper, please, miss." (They gave her Hieratica)—*Pick-me-up*.

PHARMACY IN DENMARK.—There are 160 pharmacies in Denmark for a population of 2,172,380, or one to 13,577 individuals. Copenhagen has 21 pharmacies, or one to every 14,898 of its citizens. Such a happy hunting-ground for the cutter—if he could get there!

Bankruptcy Report.

Re GEORGE GABRIEL WOLFF, 105 Green Lanes, Clissold Park, and Acton Street, Haggerston, Manufacturing Chemist.

THIS bankrupt attended before Mr. Registrar Linklater, at the London Bankruptcy Court, last week, for further examination regarding his deficiency account. To the Official Receiver and to Mr. C. Herbert Smith, who appeared for the petitioning creditor, he stated that he had disclosed the whole of his property and effects. When he entered into partnership with Mr. Williams in September, 1892, he valued the stock and fixtures at 360*l*., which left a surplus of 164*l*., after allowing for his liabilities. The partnership agreement treated that surplus as witness's capital, whilst Mr. Williams introduced a cash capital of 300*l*. At that time he had some private liabilities, which he did not take into account. The partnership agreement provided that each partner should draw 3*l*. weekly from the business, and that the profits should be equally divided between them at stated periods. He drew 1,795*l*. from the business during the partnership, and believed his partner drew about as much. It was true that his partner had in all introduced 5,500*l*. to the business, and was now a creditor for that amount. Witness gave a bill of sale for 100*l*. in March last, when insolvent, over furniture that had been acquired at a cost of over 400*l*. The 100*l*. was paid to creditors. In February, 1895, he sold some silver articles for 12*l*., to enable him to meet a writ. Those articles had been purchased for 37*l*. from Messrs. Elkington & Co. some time before. He admitted that he had lost 60*l*. over the three-card trick in a club in North London which he could not now identify. He was taken there and induced to drink. The 60*l*. was part of the 100*l*. received from the bill-of-sale holder. Mr. Smith asked the witness whether his wife, sons, and daughters did not propose to carry on a similar business to that of G. G. Wolff & Co. The witness said they did, and he had advised them to do so. The examination was then ordered to be concluded.

Re WILLIAM JOHN HOPPS, 16 Lime Grove, Long Eaton (late of Orchard Street and Sawley Road, Long Eaton), Mineral-water Manufacturer.

THE statement of affairs filed by this debtor disclosed net liabilities 1,170*l*. 11*s* 10*d*.. Assets were expected to realise 709*l*. 1*s*. 1*d*. The following are the principal creditors :—

	£	*s.*	*d.*
Bass & Co., Burton-on-Trent	45	0	0
Brennan, I. A., Long Eaton	15	0	0
Burton & Son, Nottingham	19	0	0
Clayton & Jowett, Liverpool	17	0	0
Dan Rylands (Limited), Barnsley	40	0	0
Hay, W. (Limited), Hull	21	0	0
Hopps, A., Leamington	725	0	0
Hutchinson, I., Derby	54	0	0
Kilner & Sons, Wakefield	70	0	0
Lewis, W., Nottingham	34	0	0
Orchard, J., Long Eaten	19	0	0
Skinner & Rook, Nottingham	33	0	0
Stevenson & Howell, London	52	0	0

Re JOHN PATTERSON MILLAR and FREDERICK ERNEST RUSSELL, of 37 St. John's Road, Margate, lately residing and carrying on business at Grosvenor Place, Chemists and Grocery Sundriesmen.

THE liabilities in this failure are returned at 80*l*. 13*s*. 10*d*. and the net assets at 41*l*. 3*s*. 11*d*. The Official Receiver states that the bankrupt Millar was formerly a weaver, residing at Haslingdon, near Manchester. Russell was a farm-labourer, residing at Bethersden, near Ashford, Kent. Millar commenced business at Milton Square, Margate, in January, 1894, in partnership with a Mr. Turrell, each having a capital of 20*l*. In March following they removed to Grosvenor Place, Margate, and in July the partnership ceased. Millar continued the business alone until November, when he took Russell into partnership. Russell brought about 19*l*. into the business. In March, 1895, they removed to their present address.

Re TOM MALLINSON and THOMAS MANSLEY (trading as Mallinson & Mansley), 88 Manchester Road Bradford.

THE unsecured liabilities in this failure amount to 159*l*. 9*s*. 8*d*., and the assets are estimated to produce 18*l*. 17*s*. 9*d*. Tom Mallinson, who was formerly in business as a maker of hair-restorer, commenced in partnership with the other debtor at Bradford in July, 1893, as artificial-teeth manufacturers. Mallinson had no estate at the time, except household furniture worth about 50*l*. more than he owed, and Mansley had neither assets nor liabilities. They could not make expenses, so removed in April, 1894, to 86 Manchester Road. The new address seems to have given no better results.

Re WILLIAM ERNEST MITCHELL, late of Hill Top, Chemist's Assistant.

THIS debtor underwent his public examination at West Bromwich Bankruptcy Court on July 24, before the Registrar, Mr. J. Clark. The gross liabilities amounted to 545*l* 15*s*. 4*d* , and the unsecured debts to 314*l* 14*s* 6*d*., while the assets were estimated to realise 131*l* 19*s*. 2*d* , leaving a deficiency of 182*l*. 15*s*. 4*d*. Defendant, whose last situation was at Hill Top, attributed his failure to illness of wife and heavy expenses. The examination was adjourned.

Gazette.

PARTNERSHIPS DISSOLVED.

Hicks, R., and **Day, F. W. H. L.,** under the style of Hicks & Day, Baldock, Herts, physicians and surgeons.

Messenger, H. W., and **Browne, L. E.,** under the style of Messenger & Browne, Rosslyn Hill, Hampstead, surgeon dentists.

Wallis, M. E. A., and **Walker, A. H.,** Thorncroft, High Road, Chiswick, physicians, &c.

Deeds of Arrangement.

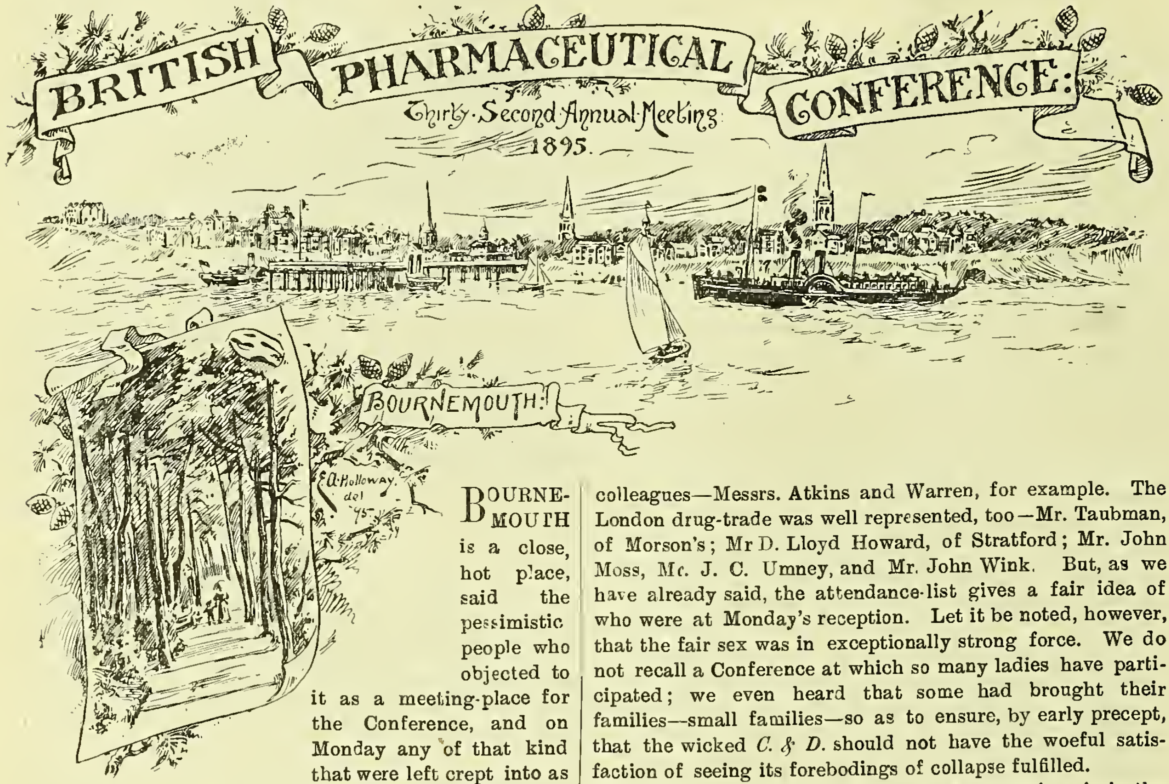
Carrick, James, Drover's Lane and Myddleton Street, Carlisle, aërated-water manufacturer. Trustee, Edwin J. Castiglione, Lowther Street, Carlisle, auctioneer. Dated July 23 ; filed July 29. Unsecured liabilities, 1,131*l*. 10*s*. 5*d*. ; estimated net assets, 360*l*. 17*s*. 1*d*. The following are scheduled as creditors :—

	£	*s.*	*d.*
Ayres Quay Bottle Co , Sunderland	49	0	0
Barnes, —, Scotby	10	0	0
Cannington, Shaw & Co., St. Helen's	88	0	0
Castiglione, E. J., Carlisle	11	0	0
Clayton & Jowett, Liverpool	13	0	0
Gill, J., Carlisle	28	0	0
Goward, G., Carlisle	17	0	0
Hay, William (Limited), Hull	13	0	0
Hope, M., Scotby	200	0	0
Lowther, J., Carlisle	10	0	0
Marshall, J., Stanix	350	0	0
Mein, W., Castlegate	200	0	0
Nicholson, I., & Co., Leeds	12	0	0
Rylands, D. (Limited), Barnsley	32	0	0
Westmorland, E., Carlisle	21	0	0

Schofield, S. R., & Co. (Samuel Reuben Schofield, trading as), Station Road, Horley, chemists. Trustee, George White, 14 Old Jewry Chambers, London, accountant. Dated July 17 ; filed July 22. Unsecured liabilities, 232*l*. 7*s*. Estimated net assets, 175*l*. The following are scheduled as creditors :—

	£	*s.*	*d.*
Globe Parcels Express, London	16	0	0
Legerton, A., London	10	0	
Shelvey & Co., Brighton	29	0	0
Smeed, —, Horley	20	0	0
Sutton, W., & Co., London	46	0	0
Walker, Troke & Co., London	15	0	0
Wright, Layman & Umney, London	21	0	0

PHENACETIN can be bought at 33c. an oz. in Canada, but it costs $1 in the United States, because it is trade-marked there.


BRITISH PHARMACEUTICAL CONFERENCE:
Thirty-Second Annual Meeting
1895.
BOURNEMOUTH:
A. Holloway del. '95

BOURNEMOUTH is a close, hot place, said the pessimistic people who objected to it as a meeting-place for the Conference, and on Monday any of that kind that were left crept into as small a space as possible—for a brisk nor'-wester met them. A party of about thirty travelled by the 2.15 P.M. train from Waterloo, and by the time they arrived others were coming into the town from different parts, while a small gathering of pharmacists were waiting at the Hotel Mont Dore to give a warmer welcome than the wind. The local arrangements seemed perfect. It was considered a happy idea to get nearly all the visitors under one roof; but this practical unanimity characterised all the Bournemouth arrangements. The chemists of the town to a man are members of the Reception Committee, and they have all been doing something to make the meeting a success. The first function was a foretaste of what was to follow. At half-past eight Mr. N. H. Martin, President of the Conference, and Mrs. Martin, held

A RECEPTION

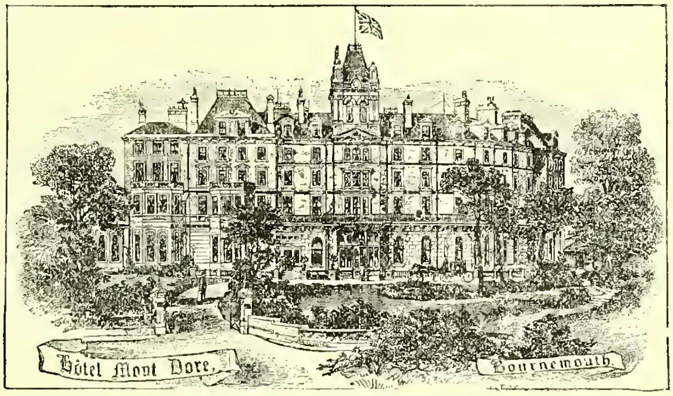
in the Winter Garden. To this was but a step from the dining-room of the hotel, and soon the large hall was gay with elegantly-clad women and the radiant faces of pharmaceutical men, who are not wont to look upon pharmaceutical matters with as much placidity as they did on Monday night. To name all those who were there would be to repeat the attendance-list; but one cannot overlook Mr. Carteighe's presence. He is not often at Conferences, but he made up for his negligence this time by bringing Mrs. Carteighe along with him. His colleague from the north, Mr. Laidlaw Ewing, was there too, and Ireland was represented by Mr. G. D. Beggs, Vice-President of the Society. Liverpool sent Dr. Charles Symes, Mr. Conroy, and Mr. Wardleworth—we heard that Mr. Cowley and Mr. John Smith left on Wednesday last, wheeling it, and they arrived in time to shake hands with the President; Manchester, Mr. Kemp and Mr. Johnstone; Mr. Druce and Mr. Matthews from Oxford; Mr. F. H. Alcock was there from Birmingham, Mr. Schacht from Bristol, with a few other of his Pharmaceutical Council colleagues—Messrs. Atkins and Warren, for example. The London drug-trade was well represented, too—Mr. Taubman, of Morson's; Mr D. Lloyd Howard, of Stratford; Mr. John Moss, Mr. J. C. Umney, and Mr. John Wink. But, as we have already said, the attendance-list gives a fair idea of who were at Monday's reception. Let it be noted, however, that the fair sex was in exceptionally strong force. We do not recall a Conference at which so many ladies have participated; we even heard that some had brought their families—small families—so as to ensure, by early precept, that the wicked *C. & D.* should not have the woeful satisfaction of seeing its forebodings of collapse fulfilled.

Much of the delight of Conference first evenings is in the renewal of old acquaintances. Bournemouth was not a bit behind its predecessors in this respect, and it was a pleasure to find amongst local pharmacists men whom one knew and who could tell that the gentleman in the scarlet robes was the deputy-mayor. So also was it gratifying to find the energetic local chairman, Mr. G. E. Bridge, in the first glee-party which opened the musical programme. He had taken this department under his own care, and the result was entirely a compliment to him. We cannot omit the programme, but it is impossible to reproduce the sparkling applause and enthusiastic encores which some of the numbers called forth.

PROGRAMME OF MUSIC.

GLEE	"Orpheus with his Lute"	*Macfarren*	Madame NEWLING, Miss DYKE, and Messrs. W. H. HARDICK and G. E. BRIDGE.
SONG	"Once"	*Hervey*	Dr. HARSANT.
SONG	"The First Kiss"	*Leuville*	Madame NEWLING.
PIANOFORTE SOLO	"Tarantelle"	*Allison*	Mr. DUNCAN HUME.
SONG	"Oh! promise me"	*De Koven*	Mr. W. H. HARDICK.
VIOLIN SOLO			Mr. CHARLES FLETCHER
GLEE	"My true Love hath my Heart"	*Smart*	
SONG	"All my World"	*Hope Temple*	Dr. HARSANT.
SONG	"Ave Maria"	*Gounod*	Madame NEWLING. (*Violin Obbligato*, Mr. CHARLES FLETCHER.)
DUETT	"Song of the Twilight"	*Roeckel*	Madame NEWLING and Mr. HARDICK.
VIOLIN SOLO			Mr. CHARLES FLETCHER.
GLEE	"Good-night"	*Pinsuti*	

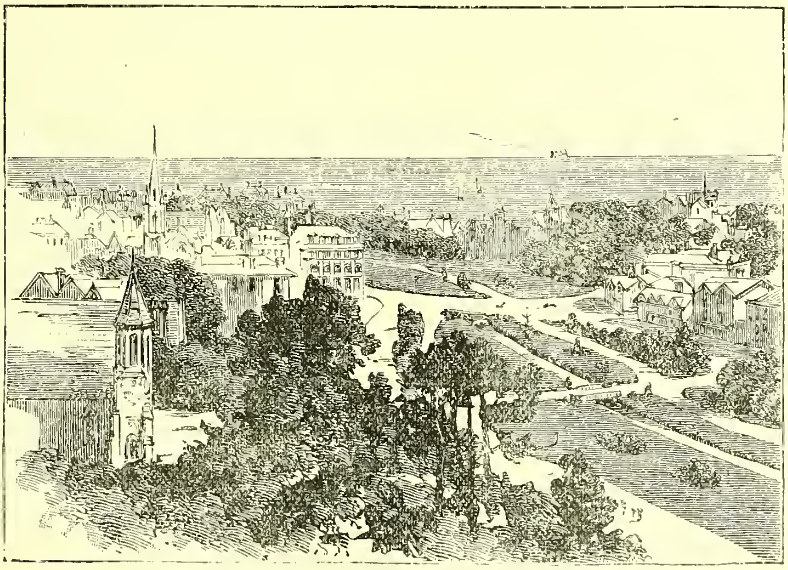
In the ante-room there was a small but excellent exhibit of microscopic objects under the charge of Mr. F. Tanner. It says much for the zeal and energy of Mr. Hardwick, the local secretary, that on the first night one found his courtesy and attention sounded everywhere. That was a feature which remained to the end, and we put it down now in all the freshness of the first blush. It was not all over with the "Good-night" glee, for the Bournemouth pharmacists thought it a sin to waste such a good floor as that of the Winter Garden, therefore the pianist sat down, and soon the feet of pharmacy ball-veterans began to patter, and before the Conferees knew where they were they were dancing a waltz. It was pretty to see them. The matter of half-a-dozen items were gone through in such a hearty way that Liverpool cannot avoid taking up the Bournemouth cue, and making a Cinderella an established feature of the Conference.



Headquarters of the Conference.

TUESDAY.

"Ten o'clock, and a bright morning!" might have been the watchman's cry, if they had watchmen in Bournemouth; but the place is not ancient enough for that, and Shaftesbury Hall, the meeting-place, is almost painfully modern. There was no doubt about the weather—a better morning no one could wish; but the hour of meeting saw few persons in the hall. By 10.10, however, the attendance had grown astonishingly; at least 120 ladies and gentlemen were present. Suddenly a burst of applause intimated the approach of Mr. Martin, the President, who was accompanied by Alderman Newlyn, Dr. Lys, Mr. Bridge, and several other members of the local committee. The President was also supported by a number of office-bearers. Mr. T. B. Groves, Mr. John Moss, Mr. H. Matthews, and Mr. Naylor were on his right; Mr. Schacht, Mr. Laidlaw Ewing, Mr. S. R. Atkins, and Mr. Francis Ransom on his left. Business was soon proceeded with,



Bournemouth, looking South from the Mont Dore Hotel.

A Local Welcome

by the Corporation and a representative of the medical profession being the first bit of it.

The President said: Gentlemen, his Worship the Mayor, Mr. Cotes, is unfortunately not able to be present with us in consequence of ill-health. I think he is away in Scotland. But his Deputy, Mr. Alderman Newlyn, has been kind enough to promise to say a few words of welcome to us.

The Deputy-Mayor was received with applause when he rose. His voice at once recalled Sir Dyce Duckworth's, and it was difficult to realise that it was not the medical knight who was speaking. Mr. Newlyn said: Mr. President and Gentlemen,—In the name of the Corporation of the town of Bournemouth, I offer you a most cordial welcome to our neighbourhood. We fully appreciate the high position the Pharmaceutical Conference holds in this country, and we are very pleased to see you here. The name of Bournemouth, I am sure, must be well known to all of you: its fame has spread, I may say, almost throughout the universe. As a sanatorium, we consider our town second to none. And I am quite sure that visits like this from gentlemen like yourselves, and that by which we were lately honoured of the medical profession, will tend to increase the welfare of our town. It has been the endeavour of past governing bodies to assist nature as far as possible in laying out the town to the best advantage, and to gain the good opinion of those most capable of judging such things. I need scarcely allude to more than one circumstance, which must identify and bear out my statement that this is one of the finest sanatoria in the country—that is, that it is the place of location of the sanatorium of England. I, gentlemen, have very great pleasure in welcoming you to our town. I hope you will be favoured with a continuance of fine weather, and that you will go away bearing pleasant memories of your visit to Bournemouth. (Applause.)

The President: Dr. Lys is kind enough to come to us to bid us welcome in the name of the medical profession.

Dr. Lys: Mr. President and Gentlemen, — I have great pleasure in adding a brief word of welcome to you of this Conference to this town of Bournemouth in the name of the medical profession of Bournemouth. We of the medical profession in Bournemouth, as well as of the medical profession generally, recognise fully the great aid which pharmacy is rendering, and has rendered in the past, to the art of medicine. Even the most conservative among us recognise fully the value of some or other of the B.P.C. formulæ. At a time when the revision of the British Pharmacopœia is imminent, and when it is being discussed in all medical circles, I may well wish a welcome and wish success to such a gathering as this. I think this Conference is happily omened in meeting in such a town as this, where pharmacy holds such a high position. I think the town of Bournemouth holds a very high position in respect of the separation of pharmacy and medicine, which is so nearly complete in this neighbourhood. Personally, I look back upon my experience of dispensing with pleasure and interest, and although I hold the opinion that the separation of the two is attended by some evils, yet I recognise to the full the benefit that pharmacy renders, and I have pleasure in wishing you, on behalf of the medical profession of the town, a pleasant and most successful meeting. (Cheers.)

The President: I am sure it will be your wish that I should, in your name and in the name of the Pharmaceutical Conference, express our thanks to Mr. Alderman Newlyn for coming here this morning, and also to Dr. Lys for welcoming us in the name of the medical profession. As the Deputy-Mayor has said, the name of Bournemouth has been known to many of us in distant parts for a great number of years; but many of us could scarcely conjure up the beauty of the place. Anyone who walks up and down the streets of the town is inclined to envy his more fortunate brethren who live in Bournemouth, and I am sure we shall all go away with the feeling that, after all, life is worth living if we can only come to Bournemouth to live it. I think the Corporation of this town are to be congratulated very much indeed upon the excellent taste with which they are laying out this beautiful country. They had natural advantages, however, which were absent from many parts of England, and they have well utilised those natural advantages. Now, almost every street and almost every house is a thing of beauty. It is particularly gratifying to us, the representatives of the Pharmaceutical Conference, to be welcomed by the medical profession, because, as Dr. Lys has stated, medicine and pharmacy are closely related to one another. Dr. Lys has referred, in flattering terms, to what this Conference has done in regard to the unofficial formulary. That is a matter which the Conference has every reason to be proud of. It has done good, and there is no better example of that than in the case of strophanthus, a drug which, partly through the attention given to it by the Formulary Committee, has quickly taken a recognised position in pharmacy and medicine, and the B.P.C. formula has been adopted by the British Pharmacopœia. Before the Formulary Committee was started there was a great lack of formulæ for new drugs which came into the market. I am sure that I convey in your name our heartiest thanks to Mr. Alderman Newlyn and to Dr. Lys for their kind words of welcome to us.

The next item on the programme was the President's address. Mr. Martin, on rising, was received with hearty applause, and occasionally his remarks were appreciated with expression; but not until the latter part of it was reached did the audience rise to a high pitch of enthusiasm, when applause, "Hear, hears," and smiles were frequent. We give the address *verbatim.* The reading of it occupied exactly forty minutes—viz., from 10.20 to 11 A.M.

PRESIDENTIAL ADDRESS.

My first duty is to congratulate the members of the Conference upon the happy auspices under which we meet this year. We have the privilege of assembling in a town where medicine and pharmacy are conducted upon the ideal basis of prescribing being confined to those who have been specially trained and qualified for the duty, and dispensing being left in the hands of those who have been specifically and equally well trained for its performance. I have no doubt but that we shall find this to be entirely satisfactory, and that a week of contact with our pharmaceutical brethren in Bournemouth will increase our respect for, and strengthen our faith in, pharmacy and its future. I also congratulate the Conference very sincerely upon the unique character which marks the invitation to come to this town. For reasons which are well known to all of us the Conference has, with two exceptions, always been invited, and has accepted the invitation, to visit the same town as the British Association. There are advantages connected with such a custom; and I, for one, hope the Conference will receive and accept many such invitations in the future. It is an open secret, however, that the pharmacists of Bournemouth have been impatient at the delay of their neighbours to invite the British Association, and that they have for some years pas been desirous to welcome the Conference for its own sake. I am told that all the pharmacists of Bournemouth are members of the local committee, and the programme which is in our hands bears witness that everything which is possible has been done to render our meeting a brilliant success. The Conference will owe a debt of gratitude to Bournemouth which we hope pharmacy will continue to repay to our local *confrères* long after all traces beyond the pleasant memories of this meeting shall have passed away.

Now I come to the serious duty which devolves upon me as the outcome of having accepted for the second time the honour which you have conferred upon me in this Presidency.

The Burden of my Address is Pharmacy,

and if, in reference to its past or present condition, I make any remarks which are even remotely capable of a personal application, I beg you, and any who may read or criticise this address, to accept my assurances that I feel deeply the responsibility of what I am compelled to say, that my references are to facts and principles, and not to persons; and if you have any love for pharmacy, I hope you will ponder over whatever may be true and helpful in any suggestions that I may make. At the present moment we are bound to acknowledge that true pharmacy in this country is in a most unsatisfactory condition. It is between a false assumption and pretence of science and the whirlwind of modern trade, and the practice of pharmacy as a separate calling is in danger of being lost altogether. By many of those who should be the leaders and defenders of pharmacy the word "pharmaceutical" is often flouted and sneered at, and treated as an adjective which no man in advance of the Middle Ages would dream for one moment of applying to anything scientific. Some of these men openly say that they do not know such a thing as "pharmaceutical" chemistry, and that there is no such thing as "materia medica," chemistry and botany having eviscerated that subject long ago. Such remarks are caught up by men who never in their lives spent a thoughtful hour in the pursuit of true science, and it comes to be considered the acme of wisdom to sneer at the science which is practical in the fulfilment of an essential duty. I believe pharmacy to be an entity which is useful in a civilised state of society, the duties and landmarks of which are as capable of definition as medicine, biology, physiology, and many other well-recognised divisions of knowledge. I am aware that it has no claim to stand alone as an abstract science, but must depend on botany and chemistry for the elucidation of many of its problems; but, in this respect, is it not on a par with the other divisions I have mentioned? Medicine, of course, is dependent on even a larger number of the various branches of science than pharmacy; but have biology or physiology any claims to be considered as abstract sciences? Are not their very names indicative of the want of knowledge of those who study them? And how dare any man say that a biological investigation is science, and worthy of all the honour which societies can bestow, while a pharmaceutical investigation must conceal its very name under some other title? As to the whirlwind of modern trade, poor pharmacy is threatened and is in grave danger of being entirely overwhelmed by it. In my address last year I pointed to the fact that pharmacy was attempting the impossibility of posing as a profession while it practised the baser methods of trade; and the answer from the headquarters of the craft, which can be read by all men in the altered features of the *Pharmaceutical Journal*, is that pharmacy is content to be trade, and the Council of the Pharmaceutical Society the leaders of a trade association. Truly there never was a time when it was so essential for the pharmacist to be endowed with the spirit so graphically described by Robert Browning—

> One who never turned his back but marched breast forward,
> Never doubted clouds would break,
> Never dreamed, though right were worsted, wrong would triumph,
> Held we fall to rise, are baffled to fight better,
> Sleep to wake.

Local Associations.

In 1886 pharmacy was granted a magnificent opportunity to associate for its advancement and protection, but those

Nicholas Henry Martin, F.C.S., F.L.S., Pharmaceutical Chemist, of Brady & Martin, Newcastle-on-Tyne, President of the British Pharmaceutical Conference (second year). Formerly an assistant with the late Mr. Henry Deane whom he left to take over Mr. Ransom's retail pharmacy at Hitchin, after which the late Mr. H. B. Brady induced him to take a share in his Newcastle business, and he has developed that greatly. Sat on the same bench with John Moss at the School of Pharmacy. Has been a member of the Council of the Pharmaceutical Society for a decade' with an interval, and has been more popular as a Conference President than some people supposed.

John Moss, F.I.C., F.C.S., Pharmaceutical Chemist, of John Moss & Co., Galen Works, Deptford, Honorary Treasurer of the Conference, ex-Bell Scholar, formerly Demonstrator in the School of Pharmacy. Was also an Examiner, to the Pharmaceutical Society. Helped to create "Zoedone" and make it a commercial success. Was associated with two prominent City houses before he went to Deptford Is the author of a long string of original contributions to pharmaceutical chemistry.

William Arthur Harrison Naylor, F.I.C., F.C.S., Pharmaceutical Chemist, twenty years ago was distinguishing himself in the School of Pharmacy, and about a dozen years ago was called to the English Board of Examiners. Did not like the work, and resigned. Is Senior Honorary Secretary of the Conference, and a hard worker, for he has charge of Hearon, Squire & Francis's laboratories, which give scope enough for the energies of a giant. Yet he always manages to find time to write papers.

Francis Ransom, F.C.S., Pharmaceutical Chemist, of Ransom & Son, Hitchin, Junior Honorary Secretary of the Conference, and a member of the Board of Examiners. Received his pharmaceutical polish in the School of Pharmacy, and at once thereafter began original work upon galenical subjects, with the view of perfecting processes of preparation and standardisation. It was natural that extracts should have a fascination for him, as they have had for his father before him.

who through registration ranged themselves under its banner failed to embrace it. So deep-rooted, however, was the conviction that such combination was necessary, not merely to the growth and development, but even to the very life itself, of pharmacy that ever and anon fresh suggestions and schemes have been urged forward.

Of late years local associations of pharmacists, and more recently a federation of such local societies, have been suggested as offering the true panacea for the ills of pharmacy. Far be it from me to think or to speak lightly of any man's earnest endeavour to do something to raise to a higher level of security and usefulness the craft of which he is a member; but observing, as I do with anxious thought and care, the waste of energy and the diversion of aim which many of these suggested schemes entail, I think it my duty to point out what appear to me to be their inherent weaknesses. As to local associations, the conditions to make these a success do not at present exist, although the success which attends local associations of medical men has been instanced to justify their adoption. In this respect how different the work and the *personnel* of medicine and pharmacy! Medical men meet each other in friendly conference to consider points of doubt or obscurity in diagnosis, and to determine, if possible, the proper treatment of serious and complicated cases. They also meet in societies to discuss the almost endless chain of cases which show greater or less divergence from the typical text-book type. They meet, as a rule, in some centre where there is a hospital, and perhaps a medical school; consultants meet the general practitioner, and professors meet their whilom students, and there is a bond of union and a common ground for paper and discussion which is largely absent from pharmacy. Then, as to the confederation of such associations, a comparison has sometimes been made with the British Medical Association and the success of its local branches; but the great difference here is that, while in the British Medical Association every member must first of all be a member of the parent national Association before he can even become eligible to be a member of any of its branches, in pharmacy no limitation of local membership to those who are connected with the Pharmaceutical Society has been anywhere carried out, and in some local associations men who are not even on the register of chemists and druggists, but who are in business as proprietors of so-called drug-stores, have been admitted to membership and allowed to contribute papers for the local Society. In the present state of things, the only association of real value which is possible is connection with the parent Society; and when we reach the condition that the vast majority of those who practise pharmacy are connected with the Society, and when in many centres throughout the land there are properly equipped public colleges of pharmacy, then the local members of the parent body may meet and discuss to some advantage the problems of pharmacy.

Consolidation of the Pharmaceutical Society.

Another proposal has been made to consolidate the Society by taking a step to render eligible for membership of the Pharmaceutical Society every person who is on the register of chemists and druggists, and this principle has been so strongly advocated that, from having been a clause in a fairly comprehensive draft Bill in 1891, it became the one object of a draft Bill in 1894. It is admitted, however, by its principal supporters that it is not in itself the end which it is sought to achieve, but only a means to that end, which is the promotion of a better system of education for the pharmacists of the future. It is asserted that all the efforts at legislation have failed for want of the moral support which would be the result if membership of the Society were embraced by every man on the register, and that once we removed the barrier which which prevents men who have only passed the Minor examination from becoming members, our Society would, in a short time, embrace them all, and then the curriculum and all the other improvements of the Pharmacy Act which are so much needed would quickly follow. There is at least one fallacy underlying this proposal. By the Act, if ever it became law, a grave injustice would be done to those men who have made pharmacy respected as much as it is, and who through good and evil report have been loyal to the Society; and finally, it is inherently improbable that by extending the membership, and as a natural and logical sequence the government of the Society, to the least trained, but numerically the strongest section of those who practise pharmacy, education would be benefited. I admit the immense advantage and power it would be, in seeking to obtain legislative assistance, if every man on the register were connected with the Society; but that advantage can be given to the Society at once if everyone will join the Society in that capacity for which he is to-day eligible; and if any man who is eligible to join as an associate, or an associate in business, holds aloof from the Society because he cannot join as a member, that man is the enemy of true pharmacy and of himself. The fallacy which underlies this proposal is the assumption that a large number of those on the register as chemists and druggists would join the Society if they were eligible for membership; all our experience points rather to the inference that it is extremely unlikely that such would be the case. I have said that an injustice would be done to another class of men. In 1868, after several previous invitations, admission to membership of the Society was for the last time offered to those who were holding

Bournemouth from the Sea.

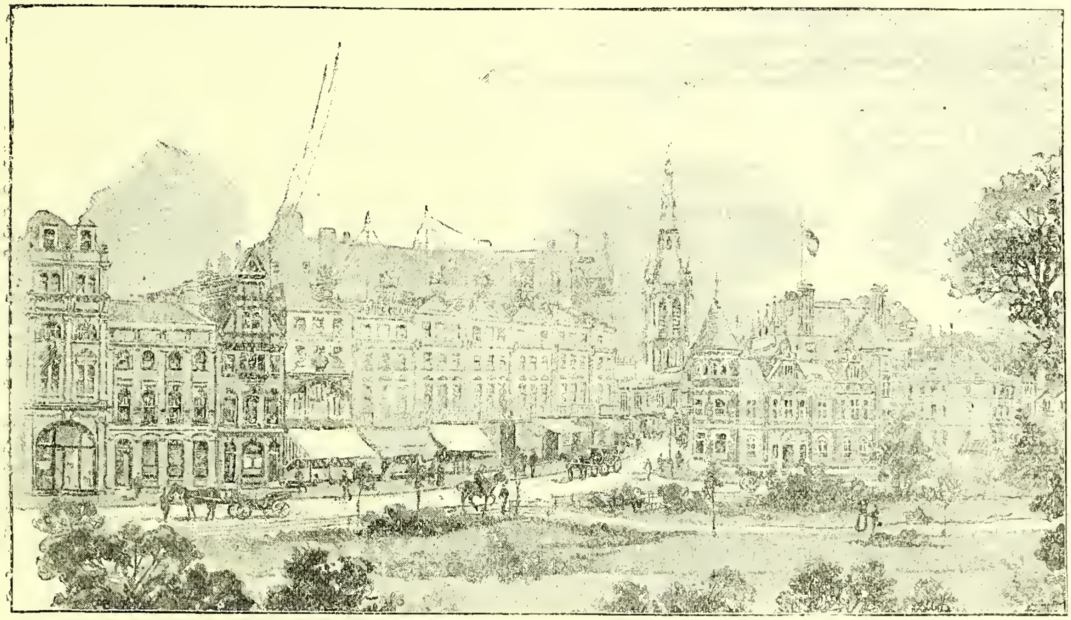
aloof, and from that time onward there was to be but one way for men to qualify themselves for it—by passing

The Major Examination

—a perfectly simple proceeding; but it was left optional to men to do so or not, and, unfortunately, we know that a large number have not qualified themselves. Some of them, however, who did not go beyond the Minor examination, having become important persons in the political and commercial world, would now like to be members of the Pharmaceutical Society. Let them present themselves for the Major examination, and they can in a very short time become eligible for membership of the Society. The Society will welcome all such, and the men themselves will have that self-respect which proceeds from the consciousness that they have entered the Society through the only portal which was honourably open to them and which did no injustice to others. I cannot understand why there is such a widespread assumption that in pharmacy a man's education is complete before he goes into business on his own account, and that so few present themselves for the Major examination afterwards. In medicine it is entirely different, and there are hundreds, perhaps thousands, of medical men who take a further qualification or a higher degree after they have for many years sustained the burden of practice. The fact is that hundreds of medical men love their profession, and in the exercise of it they are often face to face with serious gaps in their knowledge, which they embrace every opportunity to fill up, that they may do their work with greater satisfaction to themselves and benefit to their patients. Some of them go so far in this direction that during their hard-earned two or three weeks' holiday you will find them in a hospital or dissecting-room in Paris, Berlin, Vienna, and elsewhere, in quest of the special information they want. All honour to them; but why, I ask, cannot those who practise pharmacy do this, at least, to the extent of passing the Major examination? If they did, we should hear no more demands to be admitted to membership of the Society by a special Act of Parliament, the men would be benefited and honoured, and the Society strengthened as it cannot possibly be otherwise. Lastly, as to the idea that pharmacy would, from an educational point of view, be benefited and improvements carried out when the majority to whose care would be committed the future of the Society was made up of men who had contented themselves with the minimum of education legally possible. This is such an absurd assumption that I am surprised at intelligent men gravely putting it forward. From the most charitable view we may take it as fair to assume that a large number—I do not say all—of those who never present themselves in the examination room after the Minor examination do not extend their reading or study much beyond that point; but besides these there are hundreds of men who are on the register of chemists and druggists to-day as the result of having passed the Minor examination, but whose minds are a blank with respect to any scientific knowledge of pharmacy. I do not in the smallest degree intend to reflect on the Board of Examiners. The reason for the phenomenal blank which the minds of many of those who have qualified in pharmacy present is due to the

Inefficient Preliminary Education

and to the impossibility of mere examination being effectual to distinguish between cram and education. I ask, Is it reasonable to suppose that the end sought—the elevation of pharmacy—will be achieved by such a course; is it likely that men who have never felt the need or worked to qualify themselves by education can or will assist in securing true education for others? Would you commit the government of a University and its educational details to a majority of School Board boys, or would you rather not say that men who have received the University education are better able to understand it down to the requirements of the School Board boy himself? I trust I have said enough to show the unfairness and the unwisdom of this policy, and perhaps with these two examples—of local associations and their federation, and the proposal to admit all on the register to membership of the Society—I may turn from criticism to some suggestions as to what ought to, and I think might, be accomplished if we were in earnest, and finish by reference to some of the duties and pleasures of pharmacy.



The Old Christchurch Road and Southbourne Terrace, Bournemouth.

A New Pharmacy Act Wanted.

Almost without exception we are agreed that some improvement in the Pharmacy Act of 1868 is a pressing necessity and must precede any real good which we may hope to accomplish. I do not think pharmacy has had its just share of the attention of the Legislature of this country in the past quarter of a century since the passing of the Act of 1868. Within that period the medical men have added five amendment Acts to the statute book between the years 1873 and 1883. The friendly societies have obtained the passing of eight Acts between 1870 and 1883. In connection with factories and workshops, six Acts of Parliament have been passed from 1875 to 1883. Solicitors have obtained no fewer than sixteen Acts of Parliament between 1870 and 1883. From this we see that other professional and commercial bodies have had the ear of Parliament, and have made successive and presumably successful efforts to remedy the crudities and mistakes of their earlier legislative Acts; while pharmacists, with such glaring defects as they have discovered in carrying out the Pharmacy Act that the Society have made no fewer than eight attempts to draft a Bill, have not yet succeeded in getting a single Act passed. The inertia of those outside the Society is not entirely to blame for this; there has been a want of a clearly defined aim on the part of the leaders of pharmacy. They have followed the popular clamour to protect the material and pecuniary interests of pharmacy rather than to maintain and uphold a high standard of education. If we are to get any good, this must cease, and we must have a clear and definite policy; and having, if we can, discovered what is really best for pharmacy and for the public we must nail our colours to the mast and work until we get it. In the following suggestions I am expressing my own deep convictions, and although to-day they do not dominate the larger section of those on the register of chemists and druggists, I hope the day will come when they will do so.

THE CENTRAL IDEA AND KEYNOTE

of a new Pharmacy Act must be improved education and the means of legally enforcing such a course of preparation and study as will secure that those who are registered to practise pharmacy are properly trained and educated to assume such responsibility and to perform their duties. The Act of 1868 in this direction is a complete failure, and that this would be the case was clearly seen and pointed out almost immediately after the Act was passed. At the meeting of the Conference held at Brighton in 1872, this question of education occupied a very large amount of the thoughts and the time of those who were present, and eighty pages of the *Year-book* are filled with the papers and discussions thereon. The President, Mr. Brady, whilst hoping that a great deal of good would accrue from the Pharmacy Act, pointed out in the clearest manner and warned the Society against the low standard of the Preliminary examination and against the evils of "cram," which would be sure to follow the examination system divorced from training. The whole of those eighty pages are worthy of the careful study of everyone who is interested in education, and I would commend them to the younger men who have joined our Society since that date, as I cannot give you even a *précis* of them in the middle of this address. Professor Attfield, in his paper, pointed out that the Act of 1868 had done nothing for education. He said, "I assert that the Pharmacy Act of 1868 has not created any demand for sound pharmaceutical education that did not exist before 1868, and that consequently any attempt to supply such education before the demand arises will result in that loss of effort, time, and money which has hitherto followed nearly every attempt to establish a school of pharmacy in the provinces." How true and prophetic those words were we know to-day by the experience of the many unsuccessful attempts to establish true schools of pharmacy in many centres. Letters were read from prominent pharmacists, and the discussion was taken part in by many eminent men, including Professor Michael Foster, who pointed out the inherent difficulties of examination without direct and positive evidence that the candidate had been properly taught, and also alluded to the wisdom and the advantage of making examination and the examiner the complement of education and the teacher, and of associating the two if the final result is to be a reliable one. In my opinion, education must be the basis and the main object of a new Pharmacy Act, and powers must be obtained to make true education a reality in our midst.

THE PRELIMINARY EXAMINATION,

as a measure of the intellectual capacity and the brain-training of those who are to be brought into contact with some of the deepest problems of natural science, is lamentably inadequate, and should be raised as high as the standard of the Entrance examination for medicine. A sound and extensive acquaintance with mathematics should especially be enforced. The student who is to enter pharmacy should not be eligible for this examination earlier than sixteen or seventeen years of age. After this the Act should provide for at least two whole years of compulsory training in the scientific subjects which are the basis of pharmacy—physics, chemistry, and botany. This should not supersede apprenticeship to a pharmacist, but be in addition to it; whether it should precede or follow is a matter upon which there may be a difference of opinion. To the diligent apprentice it would decidedly be an advantage for the apprenticeship to come between the Entrance examination and the scientific curriculum, but for the idle and dull there would possibly be in the three years betweeen school life and the University a great loss of the power of brain-application. A course of theoretical and practical physics is essential, and the arrangements for properly teaching and demonstrating the various branches of this subject require specially arranged and furnished laboratories, as well as much apparatus of an expensive character. Chemistry and botany in their modern developments can also only be taught with similar facilities. To-day there would be no difficulty in carrying out such an Act of Parliament, and if it were passed into law there could be established in many centres throughout England and Scotland

TRUE SCHOOLS OF PHARMACY,

which would be equipped in every detail to provide the necessary compulsory education. We have only to take the University Colleges throughout the country, and we shall find ready to our hand laboratories and eminent professors, with capable assistants and demonstrators, who are prepared to teach physics, chemistry, and botany as they ought to be taught, and who can and will teach these subjects in any of their technical applications. We have only to add to each of such colleges a man with a thorough knowledge of pharmacy and materia medica, and who would devote his whole time to teaching, to make our school of pharmacy complete. Many of the Bell scholars who have been trained at Bloomsbury Square, as well as others who have passed the Major examination, and to whom a life of teaching has many attractions other than retail pharmacy, would be available for this post. The establishment of a library and museum of materia medica, of which the teacher of pharmacy should be the curator, would complete the equipment. Another important advantage of this arrangement would be that the education would be deprived of the narrow type which more or less attaches to special schools, and would give it that University character which would be of enormous advantage in the after-life of the man. This course of compulsory study, with the necessary complement of examinations, should be the qualification for the title of pharmacist, and should entitle the individual to be placed on the register of pharmacists as a member of the Pharmaceutical Society of Great Britain on the payment of a suitable fee. For the sake of encouraging higher education I should like to see established concurrently a Fellowship of the Society, to be obtained as the result of one more year of compulsory education, and a much stiffer examination in botany and chemistry, as well as in the history and knowledge of drugs. If we make this object—education—the chief plank in our platform when we go to Parliament, I believe we shall secure a large amount of support from scientific and educated men, whose powerful influence will greatly help us to obtain from Parliament the necessary powers.

THE SECOND OBJECT

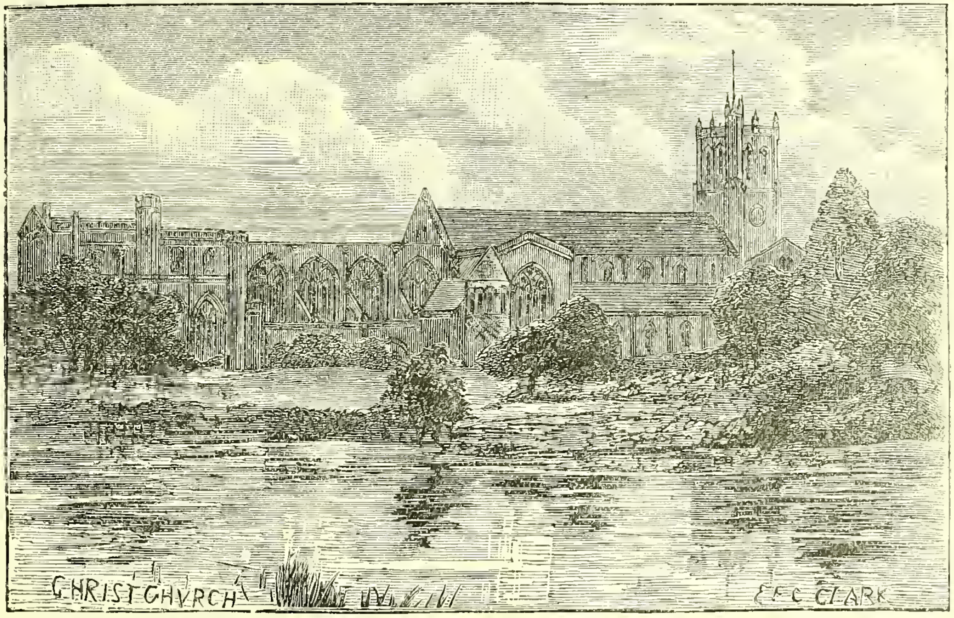
to be aimed at must be to safeguard and protect our title; and in seeking to obtain this I would discard all ambiguous words, and especially such words or titles as other men or bodies may have an equally good right to use; and having defined by our curriculum of education and by our examination what we mean by pharmacy, I would restrict the use of any title or description such as pharmacist, pharmaceutist, or pharmaceutical chemist to the men who were registered under this Act.

THE THIRD OBJECT

should be (subject to the rights of those who are registered under the Medical and Apothecaries Acts) to restrict the compounding of medical prescriptions and the sale and dispensing of poisonous substances, which are to be used as medicines for human beings, to pharmacists. The latter suggestion presents some difficulties; but in my opinion it must not be approached from the trade-union point of view, but entirely from the side of the public health and safety. I believe most assuredly that it is in the best interests of the community that the handling and dispensing of the substances which are to be used for the relief of human suffering and the cure of human ailments should be restricted to men who have undergone prolonged and special training, and have furnished to the State satisfactory evidence thereof. This is a matter which at some time or other concerns, or will concern, every individual in the State, from the Queen to the peasant; and when pharmacists prove that they believe in and are earnest about education, the country and the Government will give them, for the sake of the people, a reasonable protection in the exercise of their calling, and upon no other basis but education have they the slightest ground or claim to ask for such protection.

F.P.S. AGAIN.

Lastly, I should like the proposed Act to deal with the constitution of the Society, and to enable us to have two classes of men and two only—Members and Fellows of the Pharmaceutical Society of Great Britain—and that each should become such by virtue of the training, the examination, and the payment of such fees for registration as might be decided on. The government of the Society in the future should be in the hands of a council, of whom one-third should be Fellows, and the Council should be elected annually by the two classes of Members and Fellows voting for their peers. I am quite aware that there are many difficulties to be overcome, and it would be an easy task for me to occupy the next few minutes of your time in pointing them out; but I will leave it for those who may do me the honour to read and criticise what I have said. But my last word is the conviction of my life—that in order to benefit pharmacy we must approach it from the side of education and raise it to the rank and position of a profession, and not from the side of a trade. If it is a question of barter, of pecuniary gains and losses, Parliament will not and ought not to interfere to assist or protect the pharmacist any more than the grocer or the draper; but if it is wise, in the interests of the health of the community, that a class of men should at the outset spend time and money in acquiring special and sufficient knowledge of pharmacy, then Parliament may be expected to restrict the practice of it to such men.



Christchurch.

Duties.

I now come to a consideration of the duties of pharmacy. When it has acquired the professional standing which is essential, there is not the smallest reason to doubt that gradually, but surely, the dispensing of medicines will come to the pharmacist. It will take a generation to make pharmacy fit for the trust, and the same period will, under suitable conditions, see the transfer of dispensing from medicine to pharmacy. As I pointed out last year, however, this can only come about by the slow process of change in the habits of the people who have grown accustomed to get the prescription and the medicine from the same source. I should like to say a word with respect to two special functions of pharmacy—its relation to the Pharmacopœia and to research. First,

With Regard to the Pharmacopœia,

at no time in the history of medicine probably was there so much and such widespread interest bestowed by various countries upon their several Pharmacopœias, and in this country the necessity for a revision of the British Pharmacopœia, and the suggestion that it shall be imperial in its character and scope, has drawn forth a number of able medical and pharmaceutical authorities to publish their ideas of what the Pharmacopœia should and what it should not be. I do not intend to summarise these or to take up your time with many details, but shall briefly allude to some points which have been overlooked, and especially to the relation of pharmacy to the work.

The Pharmacopœia has in the past been produced under the general supervision of a committee of the Medical Council, who have employed one or more experts in pharmacy to act as editors. In the production of the Addendum in 1890, the Pharmacopœia Committee acknowledged to have received "valuable assistance from a committee of the Pharmaceutical Society," and the latter body have been again invited by the Medical Council, and have appointed a committee to work on the same lines as in the production of the Addendum. The time is not ripe, and I regret to know that pharmacy has neglected many golden opportunities which would have given it a surer title to recognition; but when pharmacy has given to the world the evidence of the professional spirit and standing which medicine has done, then an ideal Pharmacopœia Committee will be a conjoint board of medicine and pharmacy. Pharmacy will accumulate an amount of knowledge and experience which medicine will cease to work for and to accentuate; and medicine, if it is to be brought to the highest development of precision and accuracy, will not act wisely in disregarding it or in failing to utilise it through the most favourable channels.

With regard to the scope and purpose of the Pharmacopœia, its aim should be to provide the greatest number of the average medical men and pharmacists with accurate descriptions of all the drugs and preparations which are in reasonably common use at the time of its publication, so that they may judge of the identity and quality from the Pharmacopœia description. It should also provide formulæ which will produce stable and reliable preparations of the drugs in the manner most suitable for their exhibition. In order to reduce to a minimum the necessity for the practitioner or the pharmacist to construct formulæ for himself, the Pharmacopœia should err on the side of inclusion rather than of exclusion. There seems to be a fear that the Pharmacopœia will be too bulky, but I do not share in this. Surely it is better that every physician who wants to use, and every pharmacist who is called upon to dispense, a preparation of a known drug, should both be able to rely upon a common authoritative standard, than that each should be compelled to possess or compile a Pharmacopœia outside and in addition to the official one. In the latter case it might often happen that the physician would designate a preparation thinking of one authority, and that the pharmacist would dispense it according to another. If no evil were the result, it is impossible for comparisons as to the value of the medicine to be made, and for accurate and precise knowledge to be accumulated. The current Pharmacopœia should be the sole authorised standard of a large and widely-distributed profession, and the aim of the Pharmacopœia Committee should be not to overlook anything which would render the book of the greatest service to the largest number. The omissions from the Pharmacopœia provide the happy hunting-ground for the cupidity of the empiric and the quack in pharmacy.

Research.

With regard to research, the duty which is incumbent upon every man to do something either to increase the aggregate amount or to render more exact and scientific the knowledge which is in the possession of his calling cannot be too seriously taken to heart by pharmacists. It is a great mistake, however, to suppose that at any given period a very large number of men are capable of doing original work, or of making discoveries. It must be a sufficient daily task for most men to keep abreast of the discoveries of others, and to have ready for the practical affairs of daily duty a sufficiently intimate acquaintance with the large body of accumulated facts. If this is the case with men of mature age and experience, how much more must it be so with young men? One of the greatest mistakes connected with modern scientific education is the inducement which has been given to young students to write and to talk before they have read and thought.

Occasionally it may happen that an inspired genius may work upon some original line, or wrest a brilliant discovery from the regions of the unknown, without having performed the drudgery of learning what others have done in the same field of labour, but as a rule, with but very few exceptions, the attempt to make young students pursue research will not be successful. The function of education should be to make men accurate observers, so that they may have confidence that they see what they appear to do; accurate thinkers, so that they may reason with logical precision from the facts which they have observed; and, above all, accurate manipulators, so that they may use the instruments of science in a manner to eliminate a very common source of error—faulty workmanship. The balance, and the burette, and the microscope require more constant and prolonged practice to learn their accurate use than does the spade or the trowel. Education should aim at giving men a sound and extensive foundation in the theory and practice of the science basis of their profession, and should not force them prematurely into an assumption of research. When we have men who, as the result of prolonged education, have taken the Fellowship of the Pharmaceutical Society, as I have suggested in the former part of this address, they will have laid the foundation upon which may be built a training in research methods, and from whose work, if they are able to devote some portion of their lives to research, we may expect good results.

Conclusion.

Finally, a few words as to the pleasures of pharmacy—and I could wish that my conscience would have allowed me to embrace this opportunity to dwell entirely upon the pleasures which are brought into our lives by our daily work, if we do but keep the windows of our souls clean and our minds free to receive the impressions which are to many of us a perennial source of delight. If we make gold and personal fame the standard and the goal of our lives, then I think pharmacists as a class have fewer opportunities than most men to realise them; but if we prefer the possession of a cultured mind which in the exercise of our daily work is brought into contact with the greatest men who have ever lived and written upon the deepest and most fascinating subjects of precise knowledge which have ever occupied the human intellect, then pharmacy does indeed afford us the opportunity. After the day's—the long day's—labour is over, the pharmacist can retire to the little room behind the pharmacy (call it shop if you like) which men like Scheele have hallowed, and enjoy a quiet hour in the companionship of the kings and giants of natural science, and all the while that he is enjoying a rich intellectual treat he is only the better fitting himself for his next day's labour. I am almost weary of the political, the trade, and the advertising spirit of official pharmacy, and it is possible that this may be the last time that I shall have an opportunity of publicly saying anything regarding it. If such should be the case, my earnest hope is that in the autumn of my life I may be able to cultivate more assiduously some little corner of that immense field of scientific knowledge which pharmacy has laid open to my gaze, and that in the great hereafter I may be found worthy to be endowed with greater powers and a larger appreciation of the truth and beauty of God's universe.

Mr. G. F. **Schacht** (Bristol) said: Gentlemen,—One of the penalties which old age has to pay for the crime of being old is that occasionally it is the victim of having honours thrust upon it which those who are old know quite well they are not worthy to bear. Your friend, and in this case my tyrant, Mr. Naylor, has imposed upon me the duty of being your medium in rendering your sense of appreciation and your thanks to our President for his address, and that is my excuse for occupying you for these two or three moments. With regard, of course, to the address, it is not good taste—it would be very far from good taste—to comment upon it other than in most generous terms. Criticism must come after from those who choose to criticise after they have well considered the points of the address and its full bearing upon the subject which our President had in hand. I can only say for myself that I have listened to it, as I am sure you have, with very great pleasure. Last year I had, and I daresay many of you had, the good fortune to hear his first address, and it struck me on entering the room to-day that he would have a difficult task if he succeeded in interesting us as much to-day as he did on that occasion. I think he has overcome the difficulty very well. He has, without entering into any minute points, touched upon some important matters. Perhaps you would just allow me particularly to emphasise and express my appreciation of those portions of his address with regard to the training and education of young pharmacists on the one hand, and, on the other, the great subject of research, which I think he has treated with excessively good judgment. More than those two points I do not think it is right to allude to, and I think you will all feel that we have listened to an address of an honest and courageous man, and that he has given us very intelligent views upon the relation of pharmacy to the community and the medical profession, and the present condition of that profession to pharmacy. With these very few imperfect words I hope you will allow me to convey to him our very high appreciation of his address and our best thanks for the attention that he has given to it. (Applause.)

Mr. G. E. **Bridge** (Bournemouth) said: It is my pleasurable duty, as representing the local committee, to second Mr. Schacht's resolution. I do so with the greatest pleasure, because every one of us must feel how well Mr. Martin, our President, has grasped the subject. We were all delighted with his perfect heroism—("hear, hear," and laughter)—last year, and, I am sure, this year we have no cause to feel that he has departed from his usual run. We are all anxious to see a higher standard of pharmacy taken, and no one who lives in a town like this can deny the fact that it is an absolute necessity for the higher class of pharmacy that young men should be better educated—should have a better education into the line of life which they are likely to have to take—and we, all of us, must, I am sure, feel deeply grateful for the way in which Mr. Martin has tackled the subject this morning; and the whole world of pharmacy, I hope, will seriously consider the points that he has put before us. I have very much pleasure in seconding the resolution.

Mr. S. **Hardwick** (Bournemouth) said: I should like to be allowed to say a few words with reference to the address. One of the points of the address which interested me very much was that in which reference was made to those who loved pharmacy. We are apt sometimes to fear that that race of men who loved pharmacy had become extinct—(laughter)—but I am deeply interested in the statement which has been made with regard to the subject, and glad to know that that is not the fact. (Hear, hear.)

Mr. T. B. **Groves** said: It is my duty to express your thanks to the President for his very able address, and I will, therefore, ask you to express yourselves in the ordinary way—by holding up your hands.

The resolution was agreed to amid applause.

The **President**, in reply, said: I am extremely grateful to you, gentlemen, for this vote of thanks, which I take, from your enthusiasm, is something more than mere formality. But I wish the enthusiasm that we feel at these meetings could be carried into our lives afterwards, and that when we talk about education, and reason about it, we would give stronger assurances to the public that we are earnest about it. I think that that can only come from enlisting into our ranks the men who will take a love for natural science for its own sake. I have often said that pharmacy as a bread-and-butter calling is drudgery, but pharmacy as an intellectual calling is one for which every man has a right to demand from the public a just reward for his labour. But I think that pharmacists are the most modest men in the world. They have accepted that exploded notion that we get thirteenpence profit out of the shilling. For my part I have repudiated it, and I have often said that if we get eighteenpence for our shilling it would not be too much. If we can enlist into our ranks men who have had the initial training and have some love for pharmacy for its own sake, I have still a great hope for pharmacy in the future. I do not think I should dare to read an address if I had not an opportunity of preaching a sermon, but after this Conference is over I hope my remarks will evoke a very large amount of criticism. If I live to see these things in print, and if there are any doubtful points, I shall be only too happy to assist in the solution of them, and to help forward, if I can, this great problem of lifting pharmacy out of the ruts of trade and of making it a branch of the great medical profession.

DELEGATES.

Mr. **Naylor** then read the following list of delegates:—

Pharmaceutical Society of Great Britain.—Messrs. M. Carteighe, J. Harrison, R. Hampson, Atkins, Bottle, Grose, Hills, Martin, Martindale, Schacht, and Warren, with Dr. Pau Mr. Humphrey, and Mr. R Bremridge.

BRANKSOME CHINE.

North British Branch.—Messrs. J. L. Ewing, W. L. Currie, and John Nesbit.

Pharmaceutical Society of Ireland.—Messrs. G. D. Beggs, Baxter, Payne, Tichborne, and Wells, jun.

Birmingham — Midland Pharmaceutical Association.—Messrs F. H. Alcock, Hines, D. Gibbs, and C. Thompson.

Bristol Pharmaceutical Association.—Mr. G. F. Schacht.

Liverpool Chemists' Association.—Messrs. Buck, Conroy, Cowley, Smith, Symes, and Wardleworth.

London Chemists' Assistants' Association.—Messrs. Guyer, Moore, Strother, and E. A. Umney.

Manchester Pharmaceutical Association.—Messrs. Forbes, Johnstone, Kemp, and Smith.

Exeter Association of Chemists and Druggists.—Messrs. H. Wippell, Gadd, and J. Hinton Lake.

Plymouth, Devonport, and Stonehouse Association.—Mr. C. J. Park.

Swansea and District Association of Chemists and Druggists.—Messrs. N. M. Grose and James Hughes.

Mr. **Kemp** (Manchester) responding to an invitation for any other delegates present to rise, said that Mr. Gibson, of Brighton was present. He regretted to say that one of the Manchester delegates—Mr. Forbes—was dead.

The announcement of Mr. Forbes's death caused some sensation, as he was a regular attender of the Conference meetings. It was he who shut up his shop in order to attend.

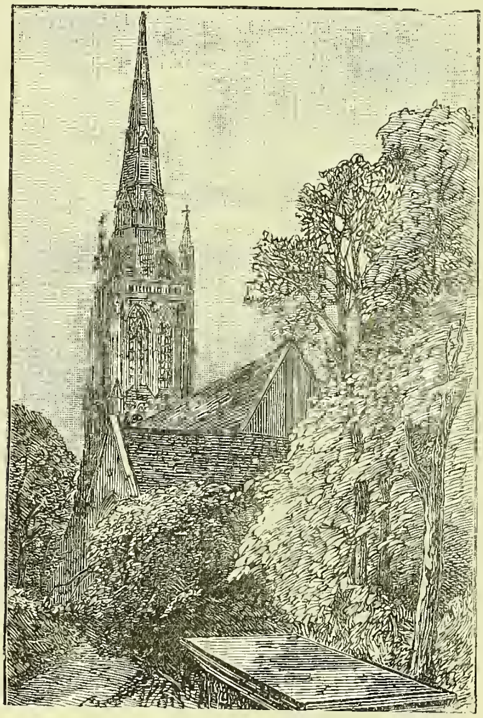
Apologies

were intimated from Messrs. Richard Reynolds, H. E. Greenish, C. C. Bell, A. W. Gerrard, William Hayes, J. Johnston, L. Siebold, W. Ward (Sheffield), R. Wright A. H. Allen, T. Tyrer, Charles Umney, and W. Hills.

The **President** said the General Election, having put back the meeting of the Society of Chemical Industry to this week, was responsible for several of these apologies. He hoped to see Mr. Martindale present on Wednesday.

Report of the Executive.

Mr. **Ransom** read this report. The Executive stated that the subject of the desirability of increasing the membership had recently been brought prominently before them in consequence of the serious diminution of income from subscriptions. After full discussion it was decided that a special circular should be drawn up by the President and Honorary Secretaries, and that a copy should be sent to each member of the Conference, urging upon him the necessity of individual effort to obtain candidates for election. A circular to this effect was accordingly distributed in May, and during the few weeks that had since elapsed eighty-seven candidates had been nominated and duly elected to membership. Letters had also been read from various members expressing their conviction of the continued usefulness of the Conference, and their appreciation of its official publication, the *Year-book of Pharmacy*. It was important that personal effort in this direction should be maintained. The number of paid-up members on June 30, the end of the financial year, was 1,130. During the past year the Conference had lost 26 members by death, and 14 by resignation, while 136 members had been elected. After a detailed consideration of proposals submitted relative to the conduct of the general meetings, it was decided that it was not desirable to alter the existing arrangements. The Blue List had been subjected to revision, and members were invited to suggest subjects which required investigation. A grant of 4*l.* had been made to Mr. Ernest J. Parry, B.Sc., towards expenses incurred in a chemical investigation of sandalwood oil. In conclusion reference was made to the fact that the Conference had lost a distinguished honorary member by the death of Professor F. A. Flückiger, of Berne. Mr. Louis Siebold, it was added, had been reappointed editor of the *Year-book.*



St. Peter's, Bournemouth.

Finance.

The statement submitted by Mr. **John Moss**, Hon. Treasurer, was not a cheering one. The total income of the year was 651*l.* 7*s.* 1*d.*, but of this 84*l.* 6*s.* 2*d.* was made up of balances from the previous year. The *Year-book* yielded 83*l.* 18*s.* 2*d.* from sales and advertisements, members' subscriptions amounted to 454*l.* 9*s.* 9*d.*, and sales of the Unofficial Formulary yielded 13*l.* 3*s.* One or two other minor items brought up the total. The expenditure included the following items:—

	£	s.	d.
Cost of the *Year-book*	494	18	5
„ Unofficial Formulary	19	19	1
Salary and expenses	65	13	6
Printing and postage	26	17	1
Research grant	4	0	0

Other small sums brought up the expenditure to 54*l.* 16*s.* 7*d.* beyond the year's income. The Conference has 360*l.* invested in 2¾ per cent. Consolidated Stock (Bell and Hills Fund), the income from this being devoted to the purchase of books for Oxford—8*l.* 2*s.* was spent on that last year. The correctness of the account was testified to by Mr. C. Clayton (Oxford) and Mr. F. Spinney (Bournemouth), the auditors. Mr. Moss put his statement in rather good style, making special reference to the return of a grant of 3*l.* made for a research, saying that the Conference would rather have had the paper a year later than receive the money back.

The **President**, in putting the various reports to the meeting, said it was a gratifying circumstance that the circular which the Executive had issued had resulted, within the last month or two, in a large accession of members, 87 having been elected the previous evening. More gratifying even was the number of letters which they had received from members, and even wholesale houses wrote saying that if it was a case of financial help beyond their subscriptions, they would be very glad to give it. (Applause.) They did not require to make money, but these pleasant letters showed that there was not the smallest probability or risk that the Conference would be in difficulties, or would expire for want of funds. He also mentioned that one reason for the diminution of membership was the exceptional number of deaths during the year.

Mr. **Conroy** seconded the adoption of the report.

Dr. **Symes**, commenting upon it, said that if the Conference should come to straits, he was sure that few members would grudge to give 10*s.* instead of 7*s.* 6*d.* every year. They had, it struck him, been gradually giving members more for their money. (Hear, hear.)

The reports were adopted.

Mr. **Naylor** then, in the absence of Mr. Martindale, read the

Report of the Unofficial Formulary Committee.

"To the British Pharmaceutical Conference in session.—Having issued a revised Formulary in July last year, this committee has not since taken any steps. Suggestions from correspondents have been received and noted; but, as some members of the committee are also members of the Pharmacopœia Committee of the Pharmaceutical Society of Great Britain, the powers of the Formulary Committee will probably be in abeyance for a time. Still, it is desirable that the latter committee should be re-appointed by the Conference. "Wm. Martindale,

"July 18, 1895." "Chairman."

The **President**: That is a very satisfactory report from Mr. Martindale. I think it was gratifying to us all this morning to hear what Dr. Lys said about the British Pharmacopœia Committee, and the truth of what he said will, I am sure, be felt by many eminent men throughout the country.

COMMUNICATIONS.

11.38. The first paper read was on

Sandal-wood Oil.

By E. J. Parry, B.Sc.

In the recent advances made in quantitative methods for the examination of essential oils, sandal oil appears to have been entirely neglected. Chapoteaut, after a very careful study of the oil, announced some time ago that it consisted almost entirely of two bodies—$C_{15}H_{26}O$, an alcohol termed "santalol"; and $C_{15}H_{24}O$, probably the corresponding aldehyde, which only occurs in small quantities. These facts made me think that a quantitative method for the estimation of the value of the oil would not be difficult to apply. Naturally I turned my attention, in the first place, to the presence of the aldehyde. But, although unable to devise any modification of the well-known bisulphite method to separate this body, I was able to confirm its presence, and hope later on to have a method for its estimation to announce. The alcohol then, of course, occupied my attention. I may here mention that there are present in normal santal oil traces of an acid, probably due to oxidation of the two bodies above mentioned, and variable quantities of a saponifiable oil, possibly an ester of santalol. Santalol, however, appears to constitute the bulk of the oil, and the aldehyde lowers the gravity of the oil, whilst the saponifiable oil raises it. After a number of experiments I found that the best way of valuing the oil was by an estimation of the amount of santalol (or other alcoholic bodies if they are present, expressed in terms of santalol). This is effected by conversion of the santalol into an acetate, and an estimation of the amount of acetic acid present in the acetylated oil. To save tedious calculations, the result may be expressed in terms of potash necessary to saponify the acetylated oil. About 10 gr. of the oil are digested with an equal volume of glacial acetic acid (this should be at least 99·5 per cent.) in a pressure-flask for an hour and a half at 150° C. The resulting oil should be well washed in a separator until the last traces of acetic acid are removed. After drying the oil is saponified with alcoholic potash in the ordinary way, and the amounts of potash are noted. In my first set of experiments very constant results are found. In the first column the percentages of potash used for saponifying the original oil are given. The second figure gives the amount of potash necessary to saponify the acetylated oil, and the third column gives the percentage of santalol present in the original santal oil, assuming, of course, the correctness of Chapoteaut's statements.

No.	Amount of Original Oil	KOH to Saponify Acetylated Oil	Percentage of Santalol
	Per Cent.	Per Cent.	
1	0·96	19·33	86
2	0·88	19·09	85
3	0·85	18·66	83
4	0·62	19·26	87
5	0·63	19·85	90
			(Decimals neglected)

The first figure confirms Cripps's results—viz., that 1 per cent. of KOH is sufficient for saponification of the oil. The second column shows that a large quantity of acetic acid has been taken up, and, as will be seen later, is sufficient to detect adulteration with cedar-wood oil, as this oil contains a very small quantity of bodies of an alcoholic nature.

The specific gravities and iodine absorptions of the five samples above described are given in the following table. The iodine-solution used is Hübl's, and the only precautions to be observed are to allow the action to take place for ten hours and to use large excess of iodine. The results are all within the limits 190–210, and are more reliable than bromine absorptions.

No.	Specific Gravity	Iodine Absorption
		Per Cent.
1	·9803	199·5
2	·9779	195·7
3	·9800	204·0
4	·9794	210·3
	·9787	190·6

These results suggested to me an explanation of the increase in gravity of the oil as distillation proceeded. Particulars of this were given in a paper by Mr. Conroy at the Nottingham Conference. Mr. Conroy was kind enough, at my request, to distil a 20-lb. batch of oil, and send me the first, middle, and last two ounces. These were examined in the methods above described, with the results given below. These results prove that the greater part of the aldehyde comes over in the earlier fractions, and that the saponifiable oil of highest boiling point increases in quantity as distillation proceeds, and accounts for the increase in gravity. The iodine absorption of the three fractions all fall within the limits above suggested—namely, 190–210 per cent.

—	Sp. Gravity	Iodine	KOH for Original Oil	KOH for Acetylated Oil	Santalol
			P.c.	P.c.	P.c.
First fraction ..	·9649	197·9	0·44	17·03	76
Middle fraction ..	·9758	200·6	0·65	20·44	93
Last fraction ..	·9805	190·9	1·04	19·66	87

In order to ascertain if an appreciable change took place during the acetylation other than the formation of the alcoholic acetate, the iodine-absorption was taken of a sample after acetylation. Calculated for the increased weight, it should have been 172·6 per cent.; found 173·0 per cent. The constitution of the oil appears, therefore, not to be materially altered by this treatment. As cedar-wood oil is a very frequent adulteration of santal-wood oil, I examined four samples in the method above described. The oil evidently contains very small quantities of cedar-camphor, for it would be almost certainly associated with the corresponding alcohol, which is in agreement with the lately-published statement that normal cedar-wood oil does not contain much, if any, cedar-camphor. The following amounts of potash were found necessary to saponify the acetylated cedar oils:—

	Per Cent.		Per Cent.
1	2·32	3	2·13
2	2·21	4	1·72

The average quantity used is, therefore, 2·1 per cent. It is therefore clear that this method enables one to detect and estimate approximately the quantity of cedar-wood oil in an admixture of the two oils. Of course, further experiments may show that slightly wider limits are necessary in the figures; but, if this is so, it can only be to a very slight extent, and would not alter the general value of the process. In conclusion, I may say that the twelve samples here dealt with are of absolutely guaranteed authenticity, for which I am able to vouch with certainty. I have to thank Mr. Michael Conroy, of Evans, Sons & Co., for his kindness in preparing me the three special samples referred to above, and Mr. Henry Wheeler, of Corbyn, Stacey & Co., for the samples of cedar-wood oil.

Discussion.

11.45. Mr. M. Conroy said that the thanks of the Conference were due to Mr. Parry, who had brought out a most important fact regarding the constitution of sandal-wood oil, especially with reference to adulteration with cedar-wood oil—the most common adulterant. He had tried many experiments for the detection of that adulterant, and had some experience with the sulphuric-acid test suggested by Mr. Parry, but he did not find it a great success, as it could not detect small percentages of adulterant.

Mr. Moss complained that it was impossible to follow Mr. Parry's rapid reading, particularly in regard to his figures, and said it would have been better if he had exhibited diagrams showing his results. The method based on the saponification of the acetylated compound might be all very well when working with the pure oils—as the figure of sandal-wood was 19 and for cedar-wood 2—but would the process detect 5 per cent. of cedar-wood oil? He had the idea that the detection of these small percentages of adulteration was the difficulty which practical men had to face. The adulteration of essential oils was a crying evil, and one to which all attention possible should be given.

Mr. F. H. Alcock said he had had occasion recently to examine the contents of some sandal-wood oil capsules, and he found them to contain castor oil along with the sandal-wood oil. He asked how that would affect the determination of the adulteration.

Mr. J. C. Umney was the next speaker. He remarked that he had tried a good many experiments in regard to acetylation of the alcohols in essential oils, but generally without success. In the case of such oils as peppermint, which contained 60 or 70 per cent. of alcohol, there was no difficulty using acetic anhydride; but when they came to such an oil as rosemary, with 15 per cent. of alcohol, it was not easy to acetylate, and it struck him that this was the difficulty that they had to meet with. He scarcely liked to express an opinion upon the process as applied to sandal-wood oil, and as suggested by Mr. Parry; but he though that oils containing as much as 80 to 90 per cent. of alcohols should give good results.

The President said that the paper was one of the highest value, as essential oils were of great interest to pharmacists.

Mr. Parry then replied. He said the sulphuric-acid test was not his, but a French one, which he had found gave fairly good results. As to his test he had been able to detect 10 per cent. of cedar-wood oil without difficulty, and he thought it even possible, with care, to find out 1 per cent. He had recently examined some foreign sandal-wood oil capsules, which contained 40 per cent. of oil of copaiba There would be no difficulty in detecting castor oil, as the saponification figures were so different.

11.55. Mr. Naylor, in the absence of the author, gave a summary of the next paper, viz.:—

Notes of a Research upon Ipecacuanha.

By R. A. Cripps, F.I C.

Pharmaceutical Chemist.

At the Cardiff meeting of the B.P.C., in conjunction with A. Whitley, I read a paper showing the general results of the proximate analysis of a sample of ipecacuanha, this being intended as the first part of a research upon that drug.

Having thereby obtained sufficient data to indicate the lines of future research, it had been my intention to examine each of its important constituents, operating upon a larger quantity. From various causes this research has been several times unavoidably suspended, and, were it not that being the recipient of a grant from the Executive of this Conference, I feel it imperative that I should contribute some facts to the present meeting, I should not now appear before you with a contribution of so unfinished a character. For the more detailed examination 800 grammes of ipecac. was exhausted by successive percolation with ether (·717) and rectified spirit. The solvents were removed by distillation, in the latter case under reduced pressure.

1. *Ether Extract*:—

= 0·44 per cent of root.

By petroleum ether this was almost entirely dissolved, and on removal of that solvent the residual oily matter was found to be mostly soluble in alcohol yielding a fluorescent solution, which by titration indicated acidity equivalent to 0·22 per cent. of oleic acid; by direct weighing 0 205 per cent. was obtained. The fatty acids were converted into lead-salts and treated with ether, whereby oleate of lead was obtained equivalent to 0·15 per cent. oleic acid.

This ethereal extract contained a mere trace of an alkaloid, but no glucoside, and no salicylic acid or salicylate. The actual results obtained were—

	Per cent.
Oleic acid	0·15
Palmitic (?) acid	0·055
Neutral fat	0·14
Wax	0·04
Resin	0·025
Alkaloid	Mere trace
	·410

Alcoholic Extract.—As on the former occasion the residue from the distillation of the solvent was dissolved in water, filtered, and extracted by means of chloroform whilst still acid, and then successively by ether and chloroform after rendering alkaline by ammonia.

The Acid Chloroform Extract contained some alkaloid; but this has not yet yielded results of value for publication.

The Alkaloid Extracted by Ether from alkaline solution was dissolved in 25 c.c. absolute alcohol, 25 c.c. ether (·717) added—the solution remaining clear—then 50 c.c. ether containing about 25 per cent. hydrochloric-acid gas, whereby a nearly white precipitate was formed, which passed into a tenacious mass; the clear liquid was poured off, and more ethereal HCl added in portions of 50 c.c until the whole of the alkaloid was precipitated, the various fractions, *a*, *b*, *c*, *d*, *e* and *f*, being obtained.

Each of these alkaloidal salts was dissolved in 100 c.c. of distilled water, and portions set aside. Only one, *b*, formed crystals of the hydrochlorate. The compound, *f*, was very small in quantity; *a* and *e* were, therefore, further examined by conversion into gold and platinum double salts. The filtrate from each of these compounds was treated with sulphuretted hydrogen, and the alkaloid extracted by ether after rendering alkaline, the amount of alkaloid obtained being in each case deducted from that originally used before calculating percentage in double salts.

Platinum Salts (*Anhydrous*).

	Alkaloid *a*.	Alkaloid *e*.
Platinum	21·30 per cent. ..	21·57 per cent.
Alkaloid	55·24 „ ..	53·81 „

The formulæ for Paul's alkaloids require—

	Emetine (mol. w. 248).	Cephaëline (mol. w. 234).
Platinum	21·46 per cent. ..	22·15 per cent.
Alkaloid	54·78 „ ..	53 34 „

Kunz's formula requires (mol. w. 508)—

Platinum	21·18 per cent.
Alkaloid	55·38 „

Gold Salts (*dried at* 120° F., *decomposed at* 212° F.).

	Alkaloid *a*.	Alkaloid *e*.
Gold..	32·44 per cent. ..	32·20 per cent.
Alkaloid	40·95 „ ..	41·01 „

Paul's alkaloids require—

	Emetine (mol. w. 248).	Cephaëline (mol. w. 234)
Gold..	32·45 per cent. ..	33·22 per cent.
Alkaloid	40 93 „ ..	39·56 „

Kunz's formula requires (mol. w. 508)—

Gold	32·13 per cent.
Alkaloid	41·55 „

The gold salts of these alkaloids are practically identical in composition, and the figures agree closely with those required by emetine (Paul), neither corresponding with cephaëline, or Kunz's formula for emetine.

Neither of the platinum salts corresponds with cephaëline. That of *a* agrees fairly well with either Paul's or Kunz's emetine, and the amount of platinum in the *e* salt is near that of Paul's emetine. The low figure for alkaloid in this case is probably an experimental error.

These being the extreme fractions (except the very small amount of *f*), it is reasonable to conclude that each of the other fractions is of the same composition, and therefore that this sample of ipecacuanha contains no cephaëline, but only emetine in the ether-soluble alkaloid.

When the alkaloid from either of the fractions, *a* to *e*, is dissolved in chloroform and allowed to evaporate spontaneously, the residue obstinately retains chloroform; this compound fuses at about 50° C., but does not lose its chloroform even at 60° C, at which temperature about 14 per cent. is retained. When cold, the compound is quite hard, and the addition of dilute hydrochloric acid causes the separation of chloroform in drops. At 82° C. the chloroform volatilises, leaving the alkaloid pure.

A solution of either of these fractions in water does not yield quite the whole of the alkaloid when agitated with ether and ammonia; in every case a trace of alkaloid was left, which readily dissolved to a yellowish fluorescent solution in chloroform, just as was observed when treating the original solution of the alcoholic extract of the root. This is worthy of further research, for it leads to the suggestion that the chloroform soluble alkaloid may be produced by the action of the alkali upon the emetine. Had this occurred only in one or two of the fractions, it might have been due to impurity; but its universal production would seem to negative such an explanation.

The figures for platinum salts given above are those for the compounds formed in the presence of excess of platinic chloride; when the alkaloid is in excess the proportion of metal is only 16·45 per cent.

The Alkaloid Soluble in Chloroform.—I have not yet obtained any results from this alkaloid of a nature suited for publication without further work.

Whilst this inquiry has been in progress, I have also carried out a few experiments bearing upon points of interest connected with the chemistry and pharmacy of ipecacuanha.

1. Arndt having published further information with regard to his volatile alkaloid, which he states to be identical with choline, I have repeated his process, using 100 grammes of the root, but have been unable to detect any trace of volatile alkaloid.

2. Arndt has described a process for the determination of ipecacuanha alkaloids, based upon his researches on the volatile alkaloid. He treats the powdered root with sodium carbonate and ferric chloride in presence of boiling methyl alcohol (60 per cent.) under an inverted condenser; filters and evaporates the filtrate, whereby choline is dissipated; he then takes up the residue with dilute ammonia, and agitates with chloroform to extract alkaloid. This solution is separated, agitated with dilute acid, and finally titrated with Mayer's solution. I can confirm Arndt's statement that this process yields lower results, having obtained 1·32 per cent. of alkaloids from a sample which yielded to Lyons' process 2·45 per cent. The working of Arndt's process is very tedious.

3. As already published, I have compared Keller's process with that of Lyons; at the same time I found that titration with hydrochloric acid, using iodeosine as indicator, yields excellent results, the alkaloidal residue obtained by my acetic-ether process, or Lyons' process, yielding almost theoretical results, Keller's alkaloid, as might be anticipated, being less pure. The following figures are examples:—

Process	Alkaloid weighed	Alkaloid titrated=254	Alkaloid titrated=248
Lyons (1)	39·3 m.g.	39·5 m.g.	38·6 m.g.
„ (2)	43·0 „	42·0 „	41·0 „
Keller (1)	102·0 „	87·0 „	85·0 „
„ (2)	111·0 „	95·9 „	93·6 „
Acetic ether	31·1 „	31·0 „	30·3 „

Methyl orange gives results almost equally good.

4. It has been stated that if a weaker acid be used for extraction in the process for preparation of ipecacuanha wine, a more satisfactory product results. This statement I can confirm Two portions, of ½ lb. each, of the root were exhausted—the one by the official process, the other by percolation with dilute acetic acid (1-20). The extract from the latter was more readily dried, and pulverised much more easily than the B.P. extract. They weighed (B.P.) 900 grains, (weak acid extract) 803 grains. The alkaloids were (B.P.) 3·24 per cent., (weak acid extract) 10·6 per cent., corresponding respectively to a total of 73 grains and 85 grains.

Discussion.

12.3. Mr. **Bird** said he was very much interested in the statement made by Mr. Cripps that a weak acid menstruum produced the best extract. That was a thing which was almost self-evident after the experience one had had. In a short paper, which he would bring before the Conference on the following day, he would describe some of the experiments which served to confirm that view. He should also like to make a remark respecting the larger yield given by Lyons' process of assay and that given on the average by Mayer's solution. He had not had any general experience of Lyons' process, having generally worked by Mr. Ransom's; but it seemed to him that the difference was very great indeed, amounting to about 30 per cent. of alkaloid. If anyone had had any experience of the two processes he would be glad to know if they could throw any light on the matter.

Mr. **Ransom** thought it would be desirable to make a weaker acid menstruum. As to the Lyons' process of assaying the alkaloid, he had always considered that it gave results which were too high. He thought it gave higher results than any other published process, and it was doubtful whether it could be relied upon.

Mr. J. C. **Umney** said he had tried Keller's process and the process of Ransom side by side, and he had found almost twice as much by Keller's process as in the process of Ransom. In recent experiments which he had made with large quantities of the root, as much as 250 lbs. being used, he had noticed evidence in the distillate of volatile alkali. On testing the recovered spirit he found it to be strongly alkaline, but he had not succeeded in determining what the body was that gave the reaction. However, he had mentioned the matter to Dr. Paul, who was working at it now.

Mr. **Bird** here remarked that the odour of the spirit was due to triethylamine.

The **President** formally recorded the thanks of the Conference to Mr. Cripps for his paper.

12.8.—Mr. **Farr** was called upon to read a

Report on the Strength of Commercial Samples of the Alkaloidal Tinctures of the British Pharmacopœia.

By E. H. Farr and R. Wright, F.C.S., Pharmaceutical Chemists.

The work previously published by us upon the alkaloidal drugs has been with the following objects in view:—(1) To ascertain the menstruum best adapted for securing perfect exhaustion of the drug. (2) To devise accurate and reliable methods for the estimation of the alkaloids in the tinctures. (3) To find the average alkaloidal strength of the tinctures. (4) To ascertain in what cases it might be feasible and desirable to set up definite alkaloidal standards for the tinctures.

These branches of our investigation having been fairly well worked out, it was thought that an inquiry into the strength and quality of commercial tinctures, as sold and dispensed by retail pharmacists, might be attended with good results, and that a report upon such tinctures might also prove of interest to the members of this Conference.

In order to obtain the necessary samples, several pharmacists residing in different parts of the country were approached, and through their kind instrumentality the requisite number of samples was obtained. In making application for them it was requested that they be obtained from pharmacists of at least average class, our object being, not to get up a case against our fellow-pharmacists, but simply to ascertain to what extent the case for standardisation of the alkaloidal tinctures might be strengthened or otherwise by an examination of commercial samples.

In addition to the estimations of alkaloid and extractive matter, we have in the present series of experiments taken the specific gravity of each sample, thinking it desirable to ascertain whether the official menstrua were closely adhered to in making the tinctures. In this particular our results indicate no very important deviation from the official instructions.

In estimating the alkaloids present in the tinctures we have followed in each case the process originally used by us, and which will be found in the *Pharmaceutical Journal*, 1891–2, or in The Chemist and Druggist, 1892–3, under the headings of notes on the individual tinctures.

The amount of extractive was ascertained by the evaporation of 10 c.c. of the tincture in a porcelain dish with a flat bottom, the extract being dried at 212° F. until constant. The results are given in Table II. We have also added to the first two tables the average of the results obtained in our former work.

Reference to Table I. discloses a very wide range in alkaloidal value, some of the tinctures being twice or three times the strength of others, and it may be a matter of surprise to many to find that this is the case even with such tinctures as opium and cinchona, both of which are directed to be made from standardised drugs. In the case of the tincture of nux vomica, too, it might be expected that the variation would be practically *nil*; but it appears that such is not the case, for, whilst in no case is the B.P. standard exceeded, one tincture is only about two-thirds as strong as it should be, and several others are deficient in alkaloid.

The tinctures of conium were most of them absolutely worthless, and in only one instance did the tincture appear to have been made from dried green fruit as directed in the B.P.

A reference to the tables given below also serves to bring out another fact—viz., that the relative proportions of alkaloid and extractive contained in different samples of the same drug vary between very wide limits. Attention has been directed to this point on several previous occasions, and its bearing upon the question of tincture-standards is obvious.

TABLE I.—*Showing the Amount of Alkaloids, in grammes, from* 100 *c.c., yielded by the Tinctures.*

Tincture	1	2	3	4	5	6	7	8	9	10	11	12	Average	Average F. & W.
Aconite	·020	·040	·048	·056	·048	·044	·046	·044	·042	·054	·044	·050	·044	·050
Belladonna	·016	·016	·017	·020	·015	·008	·031	·018	·018	·017	·021	·026	·018	·0246
Cinchona	·54	·22	·40	·52	·60	·66	·41	1·18	·49	·63	·72	·59	·58	·91
Colchicum	·072	·060	·064	·060	·020	·028	·046	·072	·080	·058	·056	·078	·058	·078
Conium	·028	·010	·012	·040	·016	·036	·035	·014	·210	·020	·024	·069	·043	·083
Gelsemium	·032	·032	·024	·044	·044	·032	·030	·024	·041	·025	·026	·027	·032	·044
Hyoscyamus	·010	·011	·016	·009	·008	·010	·009	·009	·011	·008	·010	·009	·010	·0105
Jaborandi	·014	·024	·048	·144	·120	·100	·096	·036	·052	·044	·048	·024	·062	·095
Lobelia..	·018	·040	·028	·040	·044	·036	·034	·030	·040	·027	·031	·025	·033	·038
Nux vomica	·205	·190	·220	·210	·190	·224	·216	·220	·228	·144	·184	·200	·203	—
Opium	·308	·724	·814	·668	·678	·618	·922	·870	·817	·720	1·04	1·12	·775	·579
Stramonium	·032	·016	·024	·016	·016	·018	·020	·017	·015	·025	·015	·017	·019	·0256
Veratrum	·104	·152	·104	·152	·092	·144	·082	·126	·068	·074	—	—	·110	·122

TABLE II.—*Showing the Amount of Extract, in grammes, from* 100 *c.c., yielded by the Tinctures.*

Tincture	1	2	3	4	5	6	7	8	9	10	11	12	Average	Average F. & W.
Aconite	1·96	1·08	2·44	1·72	1·08	·64	1·00	2·02	2·72	2·08	·98	2·24	1·66	2·30
Belladonna	1·38	1·00	1·18	1·14	1·04	·70	·78	1·30	1·22	·80	·68	1·26	1·04	1·24
Cinchona	3·76	3·96	3·64	3·90	4·36	5·24	3·68	7·46	4·04	6·76	5·68	4·52	4·92	5·96
Colchicum	·096	1·08	1·44	·090	·078	·076	2·32	2·18	1·26	1·34	·94	1·16	1·00	1·87
Conium	·96	3·12	1·98	1·10	1·02	·090	1·14	·56	1·86	·80	·82	1·42	1·21	1·29
Gelsemium	1·78	1·38	1·74	2·36	2·14	1·84	1·74	1·48	1·82	2·22	1·72	1·84	1·84	1·80
Hyoscyamus	3·30	3·32	3·44	3·98	3·98	3·28	3·28	2·96	3·76	3·30	3·26	3·80	3·47	3·52
Jaborandi	3·06	3·86	3·96	4·96	4·70	4·17	5·22	4·02	2·80	3·72	4·6	5·82	4·24	4·95
Lobelia..	·920	2·12	3·14	2·16	1·90	2·50	2·96	1·14	·73	1·12	1·76	1·54	1·83	2·27
Nux vomica	1·16	1·14	1·22	1·12	1·22	1·22	1·22	1·18	1·12	1·02	·54	1·24	1·12	—
Opium	3·76	3·80	3·68	4·66	3·50	5·55	3·72	3·82	4·06	3·40	3·88	4·74	4·05	4·03
Stramonium	·54	·56	·36	·40	·42	·50	·72	·70	·33	1·92	·58	1·18	·68	·77
Veratrum	1·50	2·28	1·28	2·28	1·96	1·46	1·14	1·12	1·12	1·04	—	—	1·51	1·75

TABLE III.—*Showing the Specific Gravity of the Tinctures.*

Tincture	1	2	3	4	5	6	7	8	9	10	11	12	Average
Aconite	·847	·857	·844	·847	·847	·852	·846	·854	·913	·856	·840	·857	·855
Belladonna	·928	·922	·933	·930	·928	·925	·953	·938	·920	·948	·895	·931	·929
Cinchona	·953	·940	·945	·943	·935	·951	·946	·953	·951	·953	·944	·950	·947
Colchicum	·930	·922	·935	·925	·933	·955	·942	·931	·925	·933	·925	·931	·932
Conium	·938	·940	·927	·930	·931	·930	·935	·940	·908	·931	·931	·932	·931
Gelsemium	·912	·914	·930	·930	·933	·922	·938	·938	·924	·935	·931	·935	·928
Hyoscyamus	·935	·934	·938	·938	·935	·935	·942	·938	·934	·950	·937	·939	·940
Jaborandi	·938	·940	·933	·935	·938	·958	·946	·939	·943	·951	·940	·953	·943
Lobelia	·925	·930	·940	·938	·914	·933	·950	·930	·949	·938	·933	·940	·935
Nux vomica	·892	·891	·889	·889	·894	·901	·895	·889	·893	·892	·891	·894	·892
Opium	·940	·9 6	·941	·960	·930	·940	·959	·939	·941	·943	·975	·947	·949
Stramonium	·922	·927	·932	·927	·922	·932	·936	·927	·936	·935	·925	·925	·929
Veratrum	·847	·854	·856	.880	·891	·844	·842	·866	·874	·957	—	—	·871

We take this opportunity of thanking those gentlemen who procured samples for us.

DISCUSSION.

12.20. The PRESIDENT remarked that tinctures, if they were properly made, ought to be amongst the most definite and reliable preparations which were in the Pharmacopœia, and there should be little variation. It was lamentable to discover that there were so many great variations. It was probably because the tinctures themselves were made from drugs which were not up to the proper standard, or which had been kept badly and deteriorated. It was a very great question whether it was wise to introduce into the Pharmacopœia tests for testing each of the tinctures. Carefully-prepared tinctures from good drugs ought to be almost uniform wherever they were made and by whomsoever they were made.

Mr. WILLIAMS said they had present Dr. Mahomed, a gentleman in practice in Bournemouth, who would like to say a few words on this paper if the Conference would permit him.

The PRESIDENT having given the necessary permission,

Dr. MAHOMED said he was not familiar with galenical pharmacy altogether; but, as the President had remarked, it was very distressing to medical men to find that tinctures varied so greatly. There were many points which presented themselves in prescribing tinctures that seemed to him might be remedied. In the first place, he would like to differ, with reservations, from the reader of the paper in saying that the chief thing was the alkaloidal content. Of course, alkaloids were extremely important, and he thought that in the formation of any new Pharmacopœia the great object to be aimed at in tinctures was to get as much as possible of the contents of a drug into the preparation. Familiar examples of this which he instanced occurred in foods. There was bovril, which was said to contain all that was in the meat; but he fancied a hungry man would prefer a good beef-steak. (Laughter.) If they were wearied and called upon a friend, when a glass of champagne would be just the thing to set them up, but their friend said, "There's œnanthic ether, the active principle of champagne, take some of that with water," he thought they would much rather have the natural product of the grape. He suggested the desirability, if possible, when making the new Pharmacopœia, of taking as the basis a known quantity of the whole food or drug, so that it might be diluted up to a certain point. It was impossible to make any clinical test in medicine while the tinctures were made of different strengths. In looking through the Pharmacopœia he found that valerian was one in twenty, and belladonna one in eight, and nux vomica, again, was made so much extract to the pint. He did not know that they were much the better for knowing that a drachm of tincture represented a grain. Dr. Mahomed then proceeded to comment upon the action of digitalin: how it differs from digitalis, and how much more reliable the tincture is than the so-called active principle, and emphasised his remarks upon the strengths of tinctures by comparing strophanthus and digitalis tinctures, which he said are of different strengths. If one used a known quantity of each and then experimented with the sphygmograph upon a human being, the results could not be particularly interesting.

Mr. **Atkins** thought the question raised was an exceedingly interesting one, as showing the difference between what might be termed analysis and synthesis. They were perfectly familiar with this fact. They might analyse a matter, and then they might synthesise it and find the results totally different. As an illustration, he instanced the case of producing sea-water for scientific purposes, where the results were very different in regard to the preservation or maintenance of life. The fact was that in the great laboratory of Nature there were forces—perhaps extremely obscure to them—which might be cited, such as forms of electricity and magnetism, which materially influenced the result; and if they attempted merely from the analysis to synthesise Nature's products the result would be they might find themselves very much at sea. A gentleman who for years found it his pleasure in his holiday to attend their Conferences, but who now had gone over to the great majority, once listened at a Conference meeting to a very long, and to him very dry, discussion upon the nature, the advantages, and the variety of the alkaloids in bark. He got up and said: "Mr. President, I should like to say this. I am an old pharmacist; I have heard all this learned discussion about these various alkaloids, and what I have to say is this—Give me a drop of Huxham's tincture of bark." (Laughter.)

The **President** expressed the thanks of the Conference to Dr. Mahomed for joining in the discussion, but said he was afraid the Pharmacopœia Committee of the General Medical Council would scarcely entertain our experiments as to what should and should not be the standards from his point of view. He agreed that tinctures should be uniform in strength and uniform in value so far as chemistry and pharmacy could make them; but, he pointed out, if they could extract the active principle adequately, it was to be expected that other ingredients would be in the preparation proportionately. The thanks of the Conference were due to Messrs. Farr and Wright for their contributions. ("Hear, hear.")

Mr. **Ransom** pointed out that with the exception of one sample, which showed a small percentage of alkaloid and also a small percentage of extractive with the results, that the new tinctures were much nearer as regarded alkaloid than any other of the tinctures shown. Although it might be in some way dispiriting that tinctures were not absolutely uniform, at the same time he thought they would find that they were much nearer uniformity now than they would be if no standardisation had been used.

Mr. **Umney** pointed out that the tables showed that bad results were obtained by the use of standardised drugs, this being noticeable in the case of cinchona and opium. For this reason he thought they must not rely upon the standardised crude article, but assay the finished product.

Mr. **Bird** said the average percentage of alkaloid and tincture of opium was ·75 per cent. Farr and Wright, in a paper or letter which they had published in The Chemist and Druggist, stated that by following the B.P. process not more than ·5 was obtainable. It thus appeared that some of the pharmacists who had supplied the tinctures had either departed from the official process, or had used stronger opium than was there indicated.

Mr. **Farr** then replied at some length. Referring to the President comments, he said: If the quality of the drugs was good in the first instance, and they were carefully preserved, they would maintain their strength for a reasonable time. Of course, if they were put in a damp place they spoilt. Dr. Mahomed's remarks in regard to extractive and alkaloid were interesting, but he desired to point out that digitalis had not in any way been worked out yet. The digitalin of commerce was a mixed product, and recent researches showed that German digitalin contained only 15 per cent. pure digitalin. But they could not bring such an objection against these tinctures, because they started with the natural drug and obtained the active principles as they existed in the drug. This was particularly notable in the case of hemlock, where, if they used the best green fruit, a preparation was obtained of reliable activity. It could not be denied that the alkaloid was generally accepted as the active thing, and if they determined the proportion of that present—as in the case, for example, of nux vomica—they were pretty sure that the other constituents would be present in relatively constant quality. Mr. Umney had consistently pointed out what he and Mr. Wright had so long said—namely, that they must standardise the preparation.

AFTERNOON.

The Conference then adjourned for luncheon. On resuming in the afternoon at 2.30, the first paper was read in the hearing of an audience of about a dozen. This was on

COD-LIVER OIL CONSTANTS.

By E. J. Parry, B.Sc., and C. E. Sage, Ph.C.

The published constants of cod-liver oil are so varying that we thought it would not be without interest and value to obtain a number of samples of whose authenticity we were assured, and determine some of their most useful analytical figures. We procured, therefore, ten samples, all of undoubted purity, and the figures we have obtained for them are here compared with those already published by other observers.

Specific Gravity.—The specific gravity at 15·5° C. has been recorded by various chemists at from ·9220 to ·9310. Allen originally gave ·925 to 931, but later gave ·923 to ·930. The samples we have examined gave the following figures:—

1	·9227	6	·9286
2	·9240	7	·9286
3	·9274	8	·9286
4	·9281	9	·9288
5	·9285	10	·9291

which are included in the limits of ·9227 to ·9291.

Saponification Figures.—The figures published by previous observers here vary very widely. The actual percentage of potassium hydroxide necessary to saponify the oil is the most useful way of expressing this result, and we, therefore, quote the various figures recorded by this method. Allen originally gave the limits of 18·5 per cent. to 21·3 per cent., but later reduced them to 18 2 to 18 7 per cent. Valenta gives 21·32, Kremel 17·1 to 18 9, whilst Thomson gives 18·51 to 18 82. In some of these cases it is probable that only a very few samples were examined; hence the narrow and different limits. Our samples yielded the following results:—

	Per cent.		Per cent.
1	19·34	6	18·49
2	18·57	7	18·45
3	18·03	8	18·97
4	19·10	9	18·34
5	18·34	10	17·90

which are in the limits 17·90 to 19·34 per cent. of KOH.

Iodine-absorption Figures.—Here are, perhaps, the most discordant results of any. In nearly all cases the published results are undoubtedly too low. This is in the earlier cases due to the fact that sufficient excess of iodine-solution was not employed, or the absorption was not allowed to go on for a sufficient length of time. Kremel quotes 123 to 141 per cent.; Dieterich gives 139 6 to 152·6; Fahrion gives 147·9; Lewkowitsch gives 141 to 143·4. Allen gives, in his "Commercial Organic Analysis," 129 5 to 137·6, although he, doubtless, would give higher figures now. Thomson and Ballantyne give 158·7 to 166 6. We have no hesitation in saying that all these figures are distinctly too low, with the exception of the last quoted. The ten samples we have examined yielded the following figures:—

	Per cent.		Per cent.
1	154·4	6	162·7
2	155·3	7	154·7
3	162·2	8	153·5
4	156·0	9	168·4
5	159·2	10	166·4

These figures are included in the limits 153·5 to 168·4 per cent., which confirm the results obtained by Thomson and Ballantyne.

Free Acids.—The amount of free fatty acids, calculated as oleic, can hardly be described under the term constant; but we have determined the amount in six of the samples and quote the figures here:—

2	0·60	6	0·34
3	0·54	9	0·41
5	0·52	10	0·54

Melting-points of the Fatty Acids.—The characters of the fatty acids obtained by saponifying the oil and decomposing the resulting soap are important factors in an oil-analysis. The melting-points are not the least important of these. Very few figures for these appear to have been published. Our results were as follows:—

1	25° C.	6	24·5° C.
2	23° C.	7	23·5° C.
3	24·5° C.	8	22·0° C.
4	22° C.	9	—
5	21·5° C.	10	24° C.

—that is, from 21·5° C. to 25° C.

Iodine-absorption of the Fatty Acids.—The iodine-absorption of the fatty acids is necessarily higher than that of the original oil; but the figures do not, as a rule, agree with those calculated from the quantity of fatty acids contained in the oil. This is due, in all probability, to the fact that during the drying, &c., of the fatty acids oxidation or other changes take place, and the result is that the iodine number for the fatty acids often only slightly exceeds that for the original oils. Four samples gave the following figures for the iodine-absorptions of the fatty acids:—

3	164·9	6	168·3
5	170·0	10	170·1

The question of limits to these figures is not of material importance, as they necessarily depend on those of the iodine-absorptions of the original oils. It will be noticed that the samples of which we determined the fatty acids' iodine numbers were those with the highest absorptions. The other samples would most probably have been correspondingly lower.

Mean Molecular Weight of Fatty Acids.—This figure was determined in the usual way by estimating the amount of potassium necessary to form a neutral salt with a given quantity of the mixed acids. In four samples the figures were—

3	288·2	6	288·6
5	292·5	10	287·6

—that is, between 287·6 and 292·5.

We trust that these figures will prove of some little service as an additional series of observations on cod-liver oil, especially as they represent ten samples of known purity. Had the samples been more numerous, the figures might have shown even greater variations.

2.40. There was no discussion on this paper; and the next one was immediately called for, viz.:—

ABSTRACT OF A PAPER ON OIL OF SCOTCH FIR (*Pinus sylvestris*) AND OTHER PURE OILS.

By John C. Umney.

In a recent examination of various trade-samples of Scotch-fir oil the author obtained such greatly varying results—no single specimen answering the requirements of the Pharmacopœia—that he determined to distil the oil and examine it chemically. The fir tops and young cones employed were collected in the Sevenoaks district, and yielded on distillation ½ per cent. of pale greenish-yellow oil, having a characteristic taste and odour recalling that of ripe blackberries. The specific rotation of the oil is −19°, differing in this respect markedly from an authentic sample examined by Bertram and Walbaum, which was dextrorotatory +10°. The specific gravity of the English oil was 0·8855 at 15° C.

Upon fractionation the following distillates were obtained:—

From 157° to 167° C. ..	8 per cent.	From 187° to 197° C. ..	3 per cent.
„ 167° „ 177° „ ..	27 „	„ 197° „ 240° „ ..	7 „
„ 177° „ 187° „ ..	20 „	„ 240° „ 252° „ ..	29 „

The portion boiling below 167° C. consisted chiefly of pinene. This fraction is remarkably small, while a large amount distils over and above 197° C. Most of the commercial specimens previously examined gave between 60 and 70 per cent. when distilled below 167° C.

The amount of esters contained in the English oil, determined in the usual way by saponification and expressed in terms of bornyl acetate, was found to be 3·5 per cent. After saponification a portion of the oil was distilled over sodium, when the following figures were obtained:—

From 157° to 162° ..	10 per cent.	From 171° to 175° ..	13 per cent.
„ 162° „ 165° ..	22 „	Residue	30 „
„ 165° „ 171° ..	25 „		

The lowest fraction was lævorotatory to the extent of 13°, the specific gravity was 0·8552, and it possessed all the properties of lævopinene. The oil examined by Bertram and Walbaum contained dextropinene—a fact which probably accounts for the discrepancy observed between the optical activity of the English and German distilled pine oils. The colour reaction of Wallach for sylvestrene could not be obtained from any of these fractions, although the unsaponified oil gave it strongly. The author, therefore, considers that either the reaction is not due to sylvestrene at all, but to some other body—possibly abietic acid—or that the treatment followed causes a modification in the sylvestrene, if present, so that it does not react.

From the small quantity of the oil available, the author was unable to isolate the alcoholic constituent; several characters point to the fact, however, that it is not wholly borneol. This alcohol was obtained in quantity from the oil of spruce (*Abies canadensis*), 29·4 per cent. of the acetate being obtained; after saponification, and subsequent distillation of spruce oil, the fraction boiling about 200° C. solidified, and melted at 206° C. On the other hand, the saponified oil of *Pinus sylvestris* does not possess the odour of borneol, but strongly recalls that of southernwood (*Artemisia Abrotanum*); no fraction of it comes over at 200°, nor could any indication of the presence of borneol be obtained. The acids resulting from the saponification appeared to contain valerianic or isovalerianic acids, in addition to acetic acid.

It would appear, therefore, that the optical rotation of oil of Scotch fir may vary either from the season of collection, or from the conditions of soil and climate under which the fir is grown, although it should not exceed 20° either way in a 100-mm. tube. The specific gravity should not fall below 880 at 15° C., and not more than 15 per cent. should distil below 170° C. The enforcement of these characters and tests would probably ensure the use of a pure article.

Other Pine Oils.—These were examined in the course of the work upon Scotch-fir oil for purposes of comparison. The spruce fir (*Abies canadensis*) oil alluded to had a specific gravity of 0·9026 at 15° C., and a rotation of −25 in 100-mm. tube. It gave 29·4 per cent. of bornyl acetate. It gave no indication of sylvestrene by Wallach's test.

Oil of young cones of *Abies excelsa*, frequently sold as genuine "pine-needle oil," has a much lower gravity—from ·855 to ·865 at 15° C.—and it is strongly lævorotatory (−70°). It contained 2·1 per cent. of ester.

Oil of *Picea vulgaris* possessed the most fragrant odour of all the pine oils examined. The specific gravity was 0·8806, and the rotation −37°. It gave 9·8 per cent. of ester.

Oil of *Pinus Pumilio*: A selected sample had a gravity of 0·8694, a rotation of −7·5°, and 6·4 per cent. of ester.

DISCUSSION.

2.50. Mr. E. M. HOLMES said that some years ago, when in Bournemouth, he had tasted the leaves of *Pinus sylvestris*, and had noticed that they had distinctly the taste of blackberries. This suggested to him that it was desirable that the composition of true oil of *Pinus sylvestris* should be looked into, especially as the true oil, which he had in the Museum was quite different in odour and taste from the commercial article. He had, therefore, asked Mr. Umney to take up the subject. Mr. Holmes then exhibited to the meeting a branch of the Scotch fir and one of *Pinus maritima* to show how markedly they are different, although the trees might from a distance seem to be the same, and the gatherers, in consequence, would pluck the branches of the one for the other. The distinguishing characteristic of the Scotch fir is the reddish-brown bark, the other being grey right up to the top. He was under the impression that a good deal of oil of Scotch fir was obtained in the manufacture of paper-pulp, the watery decoction yielding a distillate containing a considerable amount of oil.

Mr. Naylor said a few years ago he had been shown a very fine sample of oil of *Pinus sylvestris* by Mr. Bullock, who had gone to Germany to see the pine-needles gathered, and had the oil specially distilled from them, which he brought home. Mr. Bullock showed it to the late Sir Morell Mackenzie, and, in consequence, it was introduced into therapeutics. Mr. Naylor desired to know the difference generally in the physical characters of the true oil of *Pinus sylvestris* and what was sold in trade.

Mr. Umney said he had noticed the rotatory power of this English oil differed from one distilled by Schimmel in Germany, and, in consequence, he asked the German firm to send him their specimen, which they did, and he found that it was as stated in his paper.

Mr. Atkins asked, What are the best conditions for the preservation of these oils?

Mr. Moss said there was a peculiar fitness in a paper such as this being contributed at Bournemouth. They had heard before they came down of the celebrated pines, and they expected to find the odour of the tree all over the place and in everything; but the reality had not, perhaps happily, come up to their expectations. He felt unable to criticise the paper. It appeared that our knowledge of essential oils was at the beginning; and he was glad to think that Mr. Umney had started upon such an important question, and was working well to put pharmacists into a better position in regard to the knowledge of essential oils.

Mr. MacEwan here remarked that some fifteen or sixteen years ago Sir Morell Mackenzie's sister had brought oil of *Pinus sylvestris* under the notice of a practitioner whom he knew, with the result that the vapour was pretty largely prescribed. This lady complained that the vapour prepared for her differed from what she obtained in London, and it struck him, during Mr. Naylor's remarks, that the explanation probably was that she had been in the habit of getting Mr. Bullock's oil. Now, that raised a rather important question. Mr. Umney indicated in his paper that the oil of *Pinus sylvestris* contained a fairly large percentage of borneol acetate, while the oil of *Abies excelsa* contained a small proportion. While that would account for the difference in physical characters, the fact remained that it was the latter oil which had been chiefly used in therapeutics. It was substantially what was known to pharmacists as oil of *Pinus sylvestris*, and it followed that it was oil of *Abies excelsa* that was wanted. How would Mr. Umney do in that case? Did he want the oil of *Abies excelsa* rejected, and the oil of *Pinus sylvestris* only to be retained?

Mr. Jones, Bournemouth, said, as an old assistant of Mr. Bullock, that the oil used in Bullock & Reynolds's was quite different from what was now found in trade, and he asked why the change had come about?

Mr. Holmes remarked, a few days ago a chemist told him that he had examined a specimen of oil of *Pinus sylvestris*, and found it dextrorotatory. Some time after, when he examined it again, he found it the opposite. It therefore appeared that they could not regard specific rotation as a reliable test, if such a change did take place. As to the keeping of essential oils, the best plan was to put them in small bottles, free from moisture, and in the dark.

Mr. Conroy was also of opinion that no great reliance could be placed upon rotation, and he thought the paper, for which they were much indebted to Mr. Umney, was a remarkable commentary upon the way in which they were in the habit of using essential oils.

The President said the paper had produced a very good discussion, and, if for nothing else than that, Mr Umney had justified the communication. The whole subject of essential oils was in a most unsatisfactory condition. It struck him the only thing they could do was to pay a good price for such things—at least, they always thought that was the best way to get a good thing—but they were beginning to see that they must have greater knowledge of essential oils.

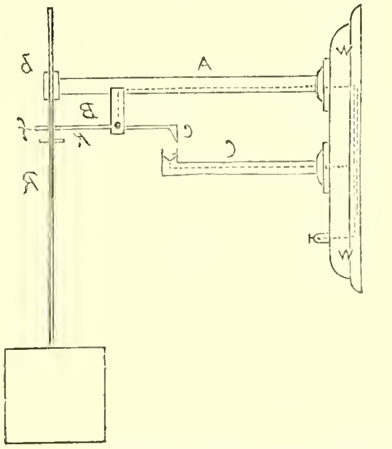
Mr. Umney said there was a difficulty in regard to rotation, but the other characteristics of the true oil of *Pinus sylvestris* and oil of *Abies excelsa* were sufficient to distinguish between them. The former had a specific gravity of ·885, while the latter was ·863, or even less, and it contained 70 to 80 per cent. of limonene. He also referred to the change in specific rotation, but he did not think that an oil would change from a dextro to a lævo-rotatory. In regard to storage, it was always advisable to keep terpene-containing oils in full bottles and free from water. He had not been able to satisfy himself that it was borneol acetate that was in oil of *Pinus sylvestris*. As to what the therapeutic reputation of the oil was based upon, he thought that a fifth of the supply was oil of *Abies excelsa*, and the rest were oils containing large percentages of turpentine.

3.17. Mr. John Moss was next called upon to describe

A Still Alarm,

By N. Crossley Jones and P. W. Jones.

This was exhibited, and Mr. Moss proceeded to demonstrate the action of the alarm, which, he said, had been designed by his friends to obviate the inconvenience and loss caused by miscalculation when the content of the still-receiver is left to take care of itself. Besides that, it permitted of an indirect saving in that the laboratory-attendant might be away and feel perfect confidence that as soon as the liquid in the receiver reached a certain height he would be called. All his worries and anxieties were gone as far as that was concerned; and when one had half-a-dozen receivers on one's mind it was calculated to impress wrinkles in the face and make the hair grow grey. This apparatus obviated it to a certain extent. It had worked for a couple of years in a laboratory with which he was acquainted with absolute certainty. Because it had done that they called it "the still alarm," and they thought it might be of some interest to pharmacists, although everyone did not, of course, require an elaborate apparatus of that kind. They might describe it as a slab, which was merely ornamental, with two arms. The upper arm carried at the end a bar or guide for a float-bar, which actuated a little lever. It also had the lever suspended from it. The small bar terminated in a little cup of mercury. It might be fixed in position about the still, and it might either be screwed to the worm-tub, or screwed to a little slab of wood by itself. When it was working, the float dipped into the receiver or into an appendage of it, which ever might be thought most convenient; and as the liquor rose in the receiver the float, which had been already adjusted to the proper height, gradually rose, actuated the bar, and completed the circuit. He was surprised to find the other day, on talking over the matter with a very large still-builder, that



The float R on rising brings *k* in contact with the lever *f*, which lowers *c* into a cup of mercury at the end of C, and electric contact is made.

he knew of no such alarm. He did not know it was so novel as that, and it was that information which made him think it good enough to be brought down to the Conference. They had quite a number of them working on different stills with one bell and one battery only. If at any time there should be a little doubt as to which receiver it was, and it was overflowing, an ordinary register, such as one used in houses indicating the numbers of rooms, might be introduced into the circuit without difficulty. The principle of the alarm was that as soon as the water or liquor rose to a certain point connection was made and the alarm rang. No skilled labour at all was wanted in applying the apparatus; it could be adjusted quite mechanically. Mr. Moss then proceeded to demonstrate the working of the apparatus, and caused some amusement by failing in his first few attempts to make the bell ring. He eventually succeeded, however, amid the applause of the audience.

Mr. **Alcock** asked if the still alarm could be made equally applicable for evaporation of liquids.

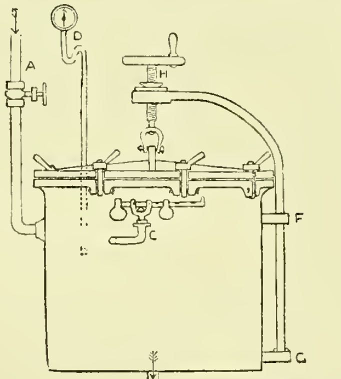
Mr. **Moss**, in reply, stated that the alarm could be adjusted for any similar purposes to what it was originally designed for. That was a small matter of mechanical arrangement.

3.31. Mr. E. **White** had found it for some time impossible to proceed with his paper because there was no chalk for the blackboard. By this time a supply had been got, and he therefore rose to tell the meeting the substance of his paper on

Sterilised Surgical Dressings: A Record of Experience.

By Edmund White, B.Sc.

About a year ago the author described in the *St. Thomas's Hospital Reports* a steriliser used in that hospital for the preparation of aseptic dressings, and the present communication was intended to relate how the steriliser has answered its purpose. The steriliser is a cast-iron cylindrical vessel, having an internal diameter of 2 ft. 4 in., and a depth of 2 ft. The walls are $\frac{3}{4}$-in. thick, and are covered to a thickness of 2 in. with asbestos to prevent loss of heat. The lid is flat, $\frac{3}{4}$-in. thick, and strengthened by four radial ribs. It is secured in place by six swivel bolts, and raised by a wheel and screw, H, passing through an arm or davit. This davit turns in the two sockets F, G, thus allowing the lid to be swung aside when raised. Inside there are two perforated galvanised-iron removable shelves supported by projections, steam enters at the side through the pipe A, waste steam and condensed water escape through the pipe B. A safety-valve, C, and pressure-gauge, D, complete the apparatus. In practice the dressings are cut, folded, or made into the form in which they will be used, and placed into cylindrical glass jars provided with flat overlapping lids. Experience has shown the author the necessity for a condensed water-trap in the steam-pipe A, to prevent water from being blown into the steriliser when the steam is first turned on. Also it is desirable to place a disc with fine perforations over the orifice of the steam-pipe where it enters the steriliser to secure the even distribution of the steam. The pressure of steam is not allowed to rise higher than 10 to 15 lbs. to the square inch, as the temperature corresponding to 20 lbs. pressure has a destructive action on the dressing-materials. When the dressings are *in situ* steam is turned on slowly, the tap B, being left open to allow the air to be displaced by the specifically lighter steam entering at the top. When the air has been displaced, as shown by the escape of steam from the B tap, the latter is closed and the pressure allowed to rise to 10 lbs. Steam is then shut off and the bottom tap fully opened. The excess of steam then rushes out, carrying with it the bulk of the air not previously displaced. This operation, which occupies three to five minutes, is then repeated before sterilisation proper is commenced, and serves to secure a thoroughly moist atmosphere of steam. An hour suffices for sterilising the dressings.



The author has found the mortality of the glass jars, to hold the dressings, so high that he has had to abandon them, and in their place he uses tinned copper vessels with glass lids. Zinc and copper alone, oxidised, aluminium was satisfactory but too expensive. In addition to the cylindrical canisters measuring 8 by 4 in., he has devised another receptacle, which is useful when a large quantity of material is required. This consists of a tinned-copper box, 10 in. long, 8 wide, and 6 high, provided with a hinged lid. On the inner surface of the lid, and running round all four sides, there is a groove into which the upper edge of the body fits when the lid is closed. This groove is filled with sterilised cotton-wool when the vessel is removed from the steriliser, and consequently forms a germ-tight junction when shut. Fitting into this receptacle is a tinned-copper wire basket which receives the dressings to be treated. During sterilisation the basket is removed from the vessel, so that its contents may be exposed to steam on all sides. When the steriliser is opened the basket is dropped into the outer vessel and the lid closed. In concluding, Mr. White called attention to a material which has proved very satisfactory as an aseptic dressing—viz., cellulose wadding made by the disintegration of pine wood. It absorbs about the same amount of water as absorbent cotton, but its special value is that discharges absorbed by it are distributed more evenly throughout the bulk of the dressing, instead of running through at one spot as is the case with cotton-wool.

Discussion.

3.40. The **President** said that the paper was interesting in view of the fact that aseptic dressings are much in use now, and it might be that pharmacists would be called upon to supply them.

Mr. H. **Collier** stated that in Guy's Hospital they used a very large steriliser, which resembled a steam-boiler in appearance. The containers that they had exemplified a simple method. The Sisters put the dressings into a small holland bag lined with Gamgee tissue, closed it up, and this was put into a larger one. They were then taken to the steriliser, and the work done. The steriliser was also used for sterilising the surgeons' coats and other things, such as artificial sponges. St. Thomas's Hospital method might be an excellent one, but he thought it was troublesome.

Mr. **Moss**: If it is necessary to sterilise the surgeons' coats, is it not also necessary to sterilise the surgeons? (Laughter.)

At this point the President and Mr. White got into conversation in regard to the construction of the box; but it was utterly impossible to follow what they were saying.

Mr. **Conroy** asked Mr. White if it was wet steam that was used in his apparatus. Mr. Collier's seemed to be dry.

Mr. **Collier** explained that it was steam at high pressure which was put into his steriliser, which was fitted with a steam-jacket.

Mr. **White**: I do not know what Mr. Collier's steriliser is like, but mine is better I know. The steam used in my apparatus comes direct from the lavatory-boiler, and can be used night or day at any time. I prefer my arrangement of a single jacket, because the double one gives a lot of trouble and mess. My idea in regard to the containers was to get the ideal thing. You can sterilise dressing in my boxes and keep them so for six months; but with Mr. Collier's bags you could not be sure, after a short time, that the dressings were perfectly aseptic.

Mr. **Elborne** then related a visit that he had paid to a prison where they had a steriliser for sterilising the prisoners' clothes. Then he went on to ask Mr. White if aseptic dressings were on the increase, for in the University College

Hospital, where he has got little to do with that sort of thing, they use solely the antiseptic dressings.

Mr. WHITE explained that it is the younger surgeons who use the aseptic dressings. They did not believe in Listerism at all, because they had had their education completed on the Continent, where asepticism is regarded as the correct thing.

The PRESIDENT: That is so. There is no doubt that there is a growing regard and preference for the antiseptic.

This concluded the scientific business of the day; and Mr. HARDWICK briefly announced that, instead of returning from Swanage by the *Lord Elgin*, the trippers would go on board the *Empress*.

WEDNESDAY.

There was an attendance of about sixty when the Conference resumed on Wednesday morning at 10.15. Mr. Martin was supported on this occasion by Mr. Michael Carteighe, who appeared on the platform for the first time. A few ladies were in the body of the hall, and they had the pleasure of hearing a paper on

THE WEIGHTS AND MEASURES OF THE BRITISH PHARMACOPŒIA VERSUS THE METRIC SYSTEM.

By William Elborne, B.A., F.C.S., Pharmacist at University College Hospital.

The author said a silent change is taking place, one which many of us are helping to bring about, and its issue would be rather of a revolutionary character—it is no less than the severance of the axis around which English pharmacy has for years revolved. The ancient symbols of the prescription, the ounce, drachm, scruple, and the grain, together with the Roman numerals, the old masonic signs between prescriber and dispenser, are ultimately to be done away with, and at last we Anglo-Saxons are to think and chatter in a foreign tongue. In the new circumlocution a plain 5-gr. blue pill becomes pil. hydrarg. 0·324 gramme, or 3·24 decigrammes, or 32·4 centigrammes, or 324 milligrammes; and a 2-oz. black draught becomes 56·794 c.c.

He alluded to the recent recommendation of the Therapeutic Committee of the British Medical Association to introduce the metric system of weights and measures, those at present in use to be added as alternatives. Among the reasons assigned for the legalisation or permissive use of the metric system in this country is, primarily, that its introduction would facilitate and be more advantageous to our foreign commerce; and the Select Committee of the House of Commons, after having received evidence from witnesses representing many different interests—(1) official, (2) commercial, (3) manufacturing, (4) trade, (5) educational, (6) professional—have recommended:—

(*a*) That the metrical system of weights and measures be at once legalised for all purposes.

(*b*) That, after the lapse of two years, the metrical system be rendered compulsory by Act of Parliament.

(*c*) That the metrical system of weights and measures be taught in all public elementary schools as a necessary and integral part of arithmetic, and that decimals be introduced at an earlier period of the school curriculum than is the case at present.

Thus, by the permissive use of the metric system having been obtained, there would be no impediment to its immediate introduction into our Pharmacopœia, for by donning this mantle of science it is considered that we should be progressing more with the times, and that our Pharmacopœia would thus assume a more imperial character and be more in harmony with the Pharmacopœias of France, Germany, and the United States. As regards the metric system, for ensuring international uniformity in matters of science it is at once most simple and excellent, and is voluntarily adopted by physicists and chemists of all nationalities, and has been adopted for many years by pharmacists in their investigations; it is already and justly recognised in our B.P. in preparing the volumetric solutions. It, however, is not sufficiently generally known among us to warrant its sole introduction into the B.P. at present; neither did the author think any successful experience attending its introduction in Germany and France (its native land) and in the United States any argument for Englishmen. Moreover, the B.P. is not written primarily for the promotion of foreign commerce, but expressly for the safety of the public and for ensuring uniformity in the daily distribution of medicine throughout the vast British Empire. However closely pharmacy is allied to the exact sciences, we must never forget that the practice of medicine and pharmacy is essentially an art, and probably the whole root of the matter in reference to this sought-for change is that we have become, as it were, so fashionably intoxicated with the modern spirit of science that we are now actually failing to discern the vested interests of our art; and as, in every noble edifice, the higher we ascend in the superstructure the further we get away from the foundations, yet, however unconscious we may become of their presence, they nevertheless undoubtedly exist deeply rooted in the soil.

And while it is most desirable that in matters of science all measurements should be expressed in the metric system, yet we should be mindful that the arts of life existed long before science was dreamt of. If the weights and measures of the B.P. (including the apothecary's weights) are involved in any real defect, their abandonment would be justified. But such is not the case—in fact, they are based on foundations a little more solid than those of the metric system, for they are what they were intended to be, whereas that cannot be said of the metric system, inasmuch as the metre, the base of the system, was intended to be the ten-millionth part of a quarter of the earth's meridian, which it is not. Apart from such philosophic trifling, however, one of the most valuable and characteristic features of the British system is that it is natural growth and an inheritance eminently adapted by experience for carrying on our busy art in the shop, surgery, or dispensary. The British legal standard of mass called 1 lb. avoirdupois, is an arbitrary lump of platinum, and $\frac{1}{7000}$ part of it is called a grain (the avoirdupois, troy, or apothecary's grain), which latter, says Mr. Davies Gilbert, a former President of the Royal Society, "the College of Physicians have expressed themselves most anxious to preserve." The avoirdupois ounce weighs 437·5 gr., and the volume of 437·5 gr. of water at 62° F. is the fluid ounce. And the volume of a grain of water was the fluid grain. On the other hand the metric system, one of the results of the great French Revolution, introduced in 1799, and legally established in France in 1840, is eminently artificial; its standard of mass is a lump of platinum called the kilogramme, intended to have the same mass as a cubic decimetre of distilled water at 4° C. The lowest denomination of this standard is the milligramme, which is the millionth part of it, and 1,000 of such parts constitute the gramme. Confining our attention to the measurement of mass, the lowest denomination of our avoirdupois pound is the grain, and the great advantage of this unit for purposes of medicine is that it is a quantity, as the word grain suggests, very small yet readily comprehended, whereas the milligramme is a quantity so exceedingly small that it is almost imperceptible, and it is very difficult to think in terms of it. We could perhaps form a better idea of it if we were to weigh out 1 gr. of any substance—say, pilula hydrargyri—and then imagine our little 1 gr. pill equally subdivided into 65 other very little pills; each of the latter would then weigh 1 milligramme. Our grain, therefore, weighs 65 milligrammes, which expressed in grammes is 0·065; and which is easier—to think of our original pill in terms of 1 gr. or of 65 milligrammes? And to arrive at gr. v., which is easier—to multiply 1 by 5, or to multiply 65 by 5 and arrive at pil. hydrarg. 0·325 gramme? And for half a grain, which is easier—to divide 1 by 2 and write it gr. $\frac{1}{2}$, or to divide 65 by 2 and write it 0·032 gramme, or 3·2 centigrammes, or 32 milligrammes? But suppose a slight mistake be made in the insertion of the decimal point, is the error so readily discoverable as in our British system? The dose of morphia, for instance, is, say, $\frac{1}{2}$ gr. (0·032 gramme); but if by mistake it were written 0·32 gramme, would the error be so patent as in its English dress, gr. v.? Here is a case in which 1,000 times the quantity of atropine ordered was dispensed in mistake. A fatal case of poisoning is reported from the United States as having occurred in Brooklyn through a dispenser misreading the following prescription:—

Atropini sulphurici	1·5 mg.
Aquæ	30·0 gm.

M.S.
As directed.

Misled by the unusual way in which the dose of atropine was written, the dispenser read it as 1·5 gramme, and dispensed the solution accordingly; in extenuation it was urged that the dose should have been written 0·0015 gramme.

Many might ask what this has to do with the introduction of the metric system into the B.P.; if introduced, would not metric prescribing and this sort of thing necessarily follow?

Now, the consistency of the French in the use of their metric system is due to the absence of the cubic centimetre from their pharmacopœial formulæ (in the Supplement of the Codex recently issued the measuring of liquids for alkaloidal solutions has been adopted), all their pharmacopœial preparations being prepared by weighing, and likewise dispensed by weight, in grammes. In consequence, percentage solutions are regarded in terms of weight, and a 5-per-cent. solution of, say, camphor in alcohol sp. gr. 838 would mean 5 grammes of camphor dissolved in 95 grammes of alcohol; but the spirit alone would measure about 113 c.c., and herein lies the *crux* of international discord regarding so simple a matter as a percentage solution; for we English, who just as consistently prepare and dispense all our liquid medicines by measure, regard a 5-per-cent. solution of a solid by weight in measure—as, for instance, grains in fluid grains—whatever be the solvent. And instead of in grains and fluid grains to express it as grammes in cubic centimetres is practically one and the same thing. Having elaborated this argument somewhat, the author submitted specimens of the metric system as introduced in half-measures into the B.P.:—

Extract. Cinchonæ Liquidum.

Red cinchona-bark	20 oz. ..	566·99 grammes
Hydrochloric acid	5 fl. dr. ..	17·75 c.c.
Glycerine	2½ fl. oz. ..	70·9925 c.c.
Rectified spirit	a sufficiency	
Distilled water		

Mix the bark with 5 pints (2,839·63 c.c.) . . . until 15 pints (8,518·98 c.c.) . . . reduced to 20 fl. oz. (567·94 c.c.). Put 50 fl. gr. (3·245 c.c.) with ½ oz. of water (14·19 c.c.) . . . holding 4 fl. oz. (113·588 c.c.); add to this 1 fl. oz. (28·397 c.c.) of . . . and ½ fl. oz. (14·198 c.c.) of soda . . . every fluid part (fl. gr. or c.c.) containing 5 gr. (0·325 gramme) . . . brought to the volume of 85 gr. (5·5 c.c.) by evaporation . . . then 12·5 fl. gr. (0·78 c.c.) to 100 fl. gr. (6·5 c.c.).

Dose: 5 to 10 minims (0·059 to 0·59 c.c.).

Here were some cubic centimetres, and, if the above performance were in any way typical of what we are to get, he knew of nothing more likely to bring the simplicity of the metric system into disrepute. It must be adopted solely, or not at all. If in half-measures, as above, the tendency will be to round off the decimals to approximate numbers, as was formerly done in the Codex and U.S.P. (sixth revision), resulting in all kinds of discussion from wranglers and half-minim hunters that so noble an instrument of precision should be thus mangled. Of this the author submitted examples.

Another aspect of the matter is, How are these centigrammes, &c., to be weighed? Is the balance in the glass case to supplant the busy hand-scales of the dispensing-counter—the sacred emblem enshrined in our coat-of-arms as being so essential to the craft?

As an illustration of French opinion of the metric system from the medical and pharmaceutical point of view during its struggle, Mr. Elborne quoted as follows:—

> Owing to the difficulty of comprehending the value of centigrammes, decigrammes, &c., and of litres, decilitres, &c., we prefer to use the old pound, divided into ounces, drachms, scruples, and grains. ("Dictionnaire de Materière Medicale," par Merat et De Leus. Paris).

Corresponding English opinions:—

> The French philosophers, for parade, have vapoured much of a new weight to be derived from a degree of the earth's surface. . . . Although the new chemical books in French nominally use the gramme, yet in their processes it will be found that their numbers are mere reductious of the common weight to the decimal scale, so that the new metrical system has only mystified—to use a French word for hoaxing—the students. . . . (Gray's "Pharmacy.")

Before the Revolution there was only one pile of weights in common use: in endeavouring to introduce one upon philosophical principles there are now no fewer than four. The Revolutionists, misled by the apparent facility of a decimal scale, introduced the metrical system in 1795. The Academicians complain much that the great Government Departments of the Navy and Artillery have never adopted this weight, not considering the great expense that it would occasion to recast all the artillery and balls.

The Faculty of Medicine at Paris, in translating their Codex Medicamentorum, or Pharmacopœia, into this new system of weights, did not esteem it necessary to use the exact reduction, but adopted a system of round numbers, and in some parts quoted both the old and their new weights, that the preparers might use either; thus a third system of weights was established:—

Old French Weight	Exact Metrical Weight—Grammes	Round Numbers of the Codex—Grammes
2 lbs.	970·02	1000·
2 oz.	61·188	64·
1 oz.	30·594	32·
36 gr.	1·91	2·
20 gr.	1·062	1·

It is not a little singular that the medical faculty of Paris should, like that of London, prefer creating a new pile of weights rather than employ the same as are used by all other persons. In 1812 the metrical system was abandoned; but instead of reverting to the old pound of Charlemagne, a new pound was decreed; and thus four systems of weights are in common use, including that of the Codex. The confusion thus introduced by continual alterations may be easily conceived (Gray's "Supplement to the Pharmacopœia."). Jacob Bell "was not so enthusiastic as some persons appeared to be in favour of an alteration of weights and measures to the decimal system. He was quite sensible to the existing evils, arising chiefly from the confusion between the troy and avoirdupois weights, but thought it desirable to provide the nearest approach to a remedy—namely, reform rather than revolution." And the opinion of the late Professor Redwood is doubtless embodied in the following quotation from the preface to the British Pharmacopœia of 1867, which is as applicable to-day as when written, viz.:—

> The Council are not insensible to the advantages that would result from the adoptiou of one uniform system of weights and measures, to be used alike for all substances and in all countries, and they observe with satisfaction the efforts which have been made for the realisation of this object; but, considering the paramount importance of avoiding errors in preparing and dispensing medicines, they cannot recommend that, in such operations, a system should be adopted which has been as yet but little used, and is to a great extent unknown, in this country; and on this account they have not employed the metrical system, even as an alternative, excepting in the processes for volumetric estimations, which are now so arranged that the same solutions may be made and used either with British weights and measures or with those of the metrical system.

In conclusion the author said by all means let the metric system be permitted for trade, but there is no reason on that account that our Pharmacopœia and English pharmacy should lose their identity. Moreover, in matters of science let us stick to science, and in matters of art stick to art; and if we would improve our art by the application of science let it be in the direction of making wonders plain rather than plain things wonders. And in this adoption of the metric system, if an appeal were made to the pharmacists and dispensers of this country, the author did not doubt that an overwhelming majority would vote with the cock in the fable. You will remember, he said, that, while pursuing his art of scratching, he turned up a sparkling gem, and in expressing his sentiments respecting it said, "Doubtless this is a very fine thing, but give me the grain!" And in his choice he displayed considerable sagacity, for in the grain he recognised his bread-and-butter.

DISCUSSION.

10.45 The PRESIDENT said he could tell from the applause that the meeting recognised this as an extremely valuable and interesting paper, and before he proposed formally to give their thanks to Mr. Elborne, he asked some of the scientific and practical men in the room to give their views on the subject. They were fortunate enough to have on the platform the President of the Pharmaceutical Society, who gave his views before the Parliamentary Committee on this question some time ago. He was sure the paper would evoke an interesting and extremely valuable discussion.

Mr. CARTEIGHE, who on rising was received with applause, said the paper in some respects was amusing, and it brought before them some of the statements that had been made from time to time in regard to the want of logic and of accuracy in the metric system. He did not quite know what the author intended them or wished them to discuss, and it was always difficult in a paper of this sort to know whether they were to consider the advisability of using the metric system of weights and measures in all the daily avocations of life, or whether they were to confine themselves to using it for pharmacy. He thought, for the purposes of this discussion, they might perhaps conveniently consider how far the introduction of the metric system into the Pharmacopœia, as a process of manufacture or a process of preparation by dose, would be a disadvantage. The author of the paper thought that if the system was introduced into preparations, it might at some future time be also introduced in the dose. That was quite possible, but it did not by any means follow. And that was the effect of the paper throughout. The logic underlying Mr. Elborne's paper was perfectly sound: that all systems of weights and measures were natural systems, and nothing would prevent the great mass of any community from continuing to use that system which was a natural system in his own particular country, any more than laws of a most penal character which existed in some parts of Europe would prevent a man who was born a Frenchman, or a German, from speaking his native French in his own land, or a *patois* like it. In Switzerland every child was compelled to learn both French and German; nevertheless, he had a third language, that was his *patois* which nobody else could understand. It did not follow from this that the *patois* should continue to be spoken, and that nothing like a definite system of language should be undertaken. He agreed with Mr Elborne that the French themselves in their general life and their system of buying and exchange did use the old system. He saw no harm in their using it at all. But he knew that the application of the metrical system to the enormous business, as it were, of the country, saved a great deal of error, saved a good deal of friction, and tended to the increase of trade in the highest sense of the term. If the metric system were only one to be used on paper it would be extremely useful. For the purposes of his observations he did not propose to say whether the metric system was a good or a bad one. It did not matter what their standard was; they could make a standard in all sorts of ways. Of course their own standard was probably the most scientific of all the systems which had been suggested. But for practical purposes they were not going to be submerged. It was a matter of little consequence what the standard was, but it was a matter of great importance that all English-speaking people, whether in Canada or in Australia, or any other place, should be, to some extent, in touch with us, or rather we should be in touch with them. There was a time when we were proud of our insular position, but our insularity had received some very severe blows during the last few years. It was now necessary to consider whether in a matter of this sort, in connection with medicine, it was not desirable to adopt the metric system. But his contention in the matter was that it was absolutely impossible to go on with the proposition of having an Imperial Pharmacopœia unless there was introduced into that Pharmacopœia, side by side with the British system, the metric system for the purposes of manufacture. But he had grave doubts himself as to its compulsory introduction. One of the members of the committee before which he gave evidence on the subject, spoke to him afterwards with reference to the voluntary adoption of the system which he had recommended. He said—and he (Mr. Carteighe) was rather inclined to agree with the opinion expressed by the distinguished person referred to—that Mr. Goschen, some years ago, when Chancellor of the Exchequer, was pressed to deal with this subject in a compulsory way. Mr. Goschen's answer was that it would cost the Government that proposed it its existence—its life—that it was just one of those things that touched every man, woman, and child, so to speak; and it would be resented very largely unless the whole system were to be introduced in the most gradual and most natural way. He (Mr. Carteighe) quite believed that the peculiarity of our coinage was an indication of how little we liked to meddle with a system in that way. But there was no reason in the world why the metric system should be called a scientific system; it was a system which was adopted by all the pharmacists of the world. Did Mr. Elborne think that they were so wanting in intelligence that they could not manage to devise practical processes in this system? (Hear, hear.) Really, that part of the paper made him feel unhappy. (Laughter.) He thought that pharmacists had become intelligent. One thing he did know—that a very large number of their candidates knew the metrical system at the present moment a great deal better than they knew their own; and not a single candidate did know completely the system of weights and measures which he had been in the habit of using all his life. But it did seem to him that the dangers that Mr. Elborne referred to in regard to prescribing were not quite so serious. It did not follow that they were to order weights in numerals, or decimals, or grammes. The gramme was very near the grain, but they could write the decigramme and milligramme, and write one thousand after them. It seemed to him that, for the next ten years or more, all that they were concerned with was as to whether the introduction of the metrical system would facilitate intercommunication, first of all, with their own people abroad. In Canada, the United States Pharmacopœia was very considerably used. The United States pharmacists looked upon themselves as go-ahead people, but they had adopted the metrical system solely, and it seemed to him that, for the preparation of medicine, they could introduce the metrical system without the slightest difficulty. When it was first proposed, some years ago, to introduce the system into the Pharmacopœia, all the doctors imagined that they would have to prescribe in that system, but they had had it pointed out to them that that did not follow at all. In a standard book like the Pharmacopœia there was use for the system in a thousand and one ways, which seemed to point to the desirability of its introduction. And considering that a large portion of the English-speaking community lived in places where the metrical system was being pressed upon them—notably in Canada—it seemed to him to be wise to introduce the system as an alternative system into the Pharmacopœia. Of course, the object he had had before the Parliamentary Committee was not to press the point whether the system should be introduced into the Pharmacopœia, but rather to point out the fact that it was proposed that the metrical system of weights and measures should be introduced. His object was to prevent this absurd condition of things arising: that a Pharmacopœia should be published in a year's time with permission to use the metrical system of weights and measures, and yet, at the same time, the representatives of the County Councils throughout the country should be able to go into their pharmacies, and have them fined 40*s.* for having in their possession an illegal system of weights and measures. It was the system which was used in all accurate work throughout the civilised world, and the best answer to Mr. Elborne was, that when a nation like the Germans used a system introduced by their natural enemies, the French—the Britisher, with all his pride, might very well be content to do likewise.

Mr. NAYLOR thought it must be admitted that when the metric system was placed in juxtaposition with our own system, as Mr. Elborne had placed it, it did look just a trifle ludicrous. But, as the previous speaker had stated, there would be found no difficulty in understanding that system at all if introduced, and it certainly would be a very workable one in commerce. But there was something to be said, too, on Mr. Elborne's side. He only desired to refer to one point in favour of the metric system. Supposing there were 5 fluid grammes representing hydrochloric acid, and Mr. Elborne were to be asked to state how much hydrochloric acid was in that product [here Mr. Naylor pointed to the blackboard upon which was a formula containing ac. hydrochlor. ʒv. in a pint], would he be able to give an immediate reply? (Laughter.) Of course, in the metrical system it could be seen at a glance, but in our system it was rather difficult. He thought Mr Elborne had slightly exaggerated that point. Perhaps he was more humorous than serious in speaking about their requiring a balance to weigh these very small quantities. There would, of course, be no difficulty in regard to the weighing, which they should certainly not do with hand scales.

Dr. Symes said that though perhaps not a strong advocate of the metrical system, he fully appreciated the advantage of its being introduced for voluntary use in the Pharmacopœia. There might be difficulties in the way of effecting the change, but we had been dealing with those difficulties for a great many years, and although Mr. Elborne had given a great many quotations from French works published in the early days, his quotations from the English authorities showed that we had been alive to these difficulties, and that for many years we had been gradually overcoming them. The remarks of Professor Redwood rather pointed to his conviction that the system would ultimately be introduced into the Pharmacopœia. The question was whether they should go on discussing the matter and introduce it voluntarily, or whether they should abandon it altogether. Mr. Elborne had admitted that to science the metric system was valuable. They were always trying to show that pharmacy was closely related to science, and if they avoided it when it was useful in science he thought they would stultify themselves. He thought it was desirable that they should have it in common use. They wanted to be educated not to think that the French system was one which was never likely to be their own. The gramme should at once convey to people's mind some tangible quantity, just as the grain did at present. He quite admitted that the grain would never be superseded altogether, because they were accustomed to think about it. If they were to accustom themselves in the same way to think of the gramme and divisions of the gramme, that also would come into general use. The system had been so largely and generally used that if they were to advance with the times they must take a step at sometime or other and introduce it into the Pharmacopœia voluntarily at first. Perhaps twenty years hence would be soon enough for its compulsory introduction. The tendency to round off the figures did, of course, make some slight discrepancy, and when the ounce was spoken of as 25 grammes it struck him that there was a good deal of rounding. But he thought it could be brought much nearer than that, without hurting their feelings as to amounts. They were all familiar with the difficulties, but he did not think the difficulties could run right through. He did not think there would be too great a difficulty with regard to doses, but he believed that each and all of the difficulties might be dealt with as they occurred. (Applause.)

Mr. J. C. Umney, speaking as a wholesale druggist, said he should like to say a word about the County Councils. Formerly they were allowed to take goods inwards from foreign countries with metric weights, and to check otto of roses by Turkish weights; but it was not permitted to sell by Turkish weights. It was that inconvenience which led to the regulations being called in question, and the County Council had now given them notice that they would not interfere with the use of the Turkish or metric system for trade. In working on very large quantities, it was extremely convenient to work in thousandth or hundredth parts, as the case might be, then by simple multiplication it was easily seen what was the percentage proportion in any preparation, whilst the cost was much more easily ascertained. The system saved a great deal of time and labour. (Hear, hear.)

Mr. Kemp said it seemed to him that Mr. Elborne had woven a net round himself several times over, and had then said "Look what a mess I am in." (Laughter.) He referred especially to his remarks concerning ext. cinchona liq. It seemed to him that, as Mr. Elborne had been for so many years engaged in chemical and laboratory work, and in investigation had become so familiar with, and worked almost invariably in, the decimal system, the first thing that would have presented itself to his mind would have been to have started off with 200 parts for his ·20 for that, and so on downwards. One need not necessarily work to 20 fluid ounces, or even to two fluid ounces, and so the proportions might go right through all these formulæ, relatively, with very little variation indeed. With regard to the test of the system for doses, it was a very immaterial matter whether a pill was ordered to be five grains or only 4·93 grains. As to the suggested difficulty which the average chemist would have of grasping these things, and altering them from the present system of weights and measures, he thought that the time was fast approaching when everyone who passed the examinations of the Pharmaceutical Society would at least understand the metric system and be anxious to adopt it.

Mr. E. J. Parry continued the discussion, referring to some points of expression used by the author of the paper, and maintaining that the metric system is scientific because it is universally used by scientific men. (Hear, hear.)

Mr. Carteighe, speaking further, said he thought it would be difficult for the Pharmacopœia authorities to use the system "solids by weight. liquids by measure" universally, especially in the case of the syrups and similar preparations.

The President asked subsequent speakers to be as concise as possible.

Mr. Strother reflected the French view of the matter—viz., the opinion of a pharmacien, who said to him, "Oh, no; we never use the B.P., because we have to do sums when we take it up. We use 'Squire.'" (Laughter.)

Mr. W. Jones (Bournemouth) said that many medical men would be glad if the metric system were introduced, because some read foreign medical journals, and had to convert the grammes, &c., into the English system in reproducing the prescriptions. This trouble would be avoided. He added that Jacob Bell had not been fairly treated, because what he wanted was reformation, and not revolution. (Hear, hear.)

Mr. Bird said there was no difficulty as to the decimal point; and he thought that, in weighing small quantities, the use of the balance ought to be *de rigueur*.

Mr. Alcock endorsed what Mr. Carteighe had said regarding students' knowledge of the metric system and ignorance of their own, and before we adopt the metric system "let us for heaven's sake," said Mr. Alcock, "know our own." (Hear, hear.)

The President then closed the discussion and returned thanks to the author. He said the metric system should be introduced into the B.P. as an alternative. He did not think that pharmacists were ignorant of it, because they had to learn chemistry, and in chemistry it was used and taught, indeed there were far more burettes graduated in c.c.'s than in grain measures. It was absurd, he thought, that a man should not be allowed to sell a litre of anything, and that was the real grievance that they required to be removed.

Mr. Elborne, on rising to reply to his critics, was received with applause, which more than made up for the stillness which was his reward during the first half of his paper. He was funny once more; but Mr. Elborne looks so serious a person that one sometimes feels a doubt whether he really means it. The metric system is very nice, he said, and I use it continually in research; but pharmacists do not make their living by research—(a laugh)—and I see no reason why the metric system should be forced upon them. The proposal is really the thin edge of the wedge—(hear, hear)—and I feel that in time the old system will slip out altogether. (Applause.) Retailers and physicians do not ask for the system; it is manufacturers who want it, and I do not see why pharmacists should be put to much inconvenience for the sake of manufacturers. (Laughter.) The only result will be that much more of the manufacture of preparations will fall into the hands of wholesale druggists. (Laughter and applause.) The British Pharmacopœia is for the retailer—(hear, hear)—it gives the quantities in pints and so on with the intention that retailers should make the things. As to what Mr. Carteighe said in regard to the system, it should not be forgotten that we do not have to provide for the accomplished, but for the duffers—(laughter)—and the 60, 70, or 80 per cent. who are rejected in the Minor examination shows that there is plenty of them to provide for. (Laughter.) Mr. Elborne concluded by saying that there was often truth in jest, and he felt that was the case with his paper. He then (11.38) read the following no

The Volumetric Solutions of the British Pharmacopœia.

By William Elborne, B.A., F.C.S., Pharmacist at University College Hospital.

In a recent memorandum issued by the British Medical Association a reference to the revision of the B.P. is as follows:—Tests for Purity: "The tests for the recognition of the purity of drugs in the B.P. are in need of complete revision. Chemistry has made considerable advances since some of them were introduced, and it is desirable that they should be replaced by others in accordance with present chemical knowledge" And in this, in so far as the volumetric solutions were concerned, the Committee was right. In the sense adopted in the chemical schools throughout the country these volumetric solutions, generally called "standard solutions," were as a group not entitled to the designation, inasmuch as in their preparation the nomenclature and standard of chemical equivalence generally accepted were not adopted.

Now, by Faraday's general law (involving no theory) that equal quantities of electricity on passing through different electrolytes require equivalent quantities of the ions for their support, if an electric current be passed through a series of electrolytes in the same circuit, then the quantities of hydrogen or metals liberated, as well as those of the acid radicles, are in equivalent proportions; if, for example, the current be passed through solutions of silver nitrate, cupric sulphate, and antimony trichloride in series in the same circuit, the quantities of metal simultaneously deposited are in the proportion of 108 of silver to half 63 3 of copper to one-thid 120 of antimony, and of the acid radicles NO_3, $\frac{1}{2} SO_4$ and $\frac{1}{3} Cl_3$, the standard being hydrogen = 1. A standard solution for purposes of chemical analysis therefore possesses a definite composition and is prepared in conformity with or normal to the standard, and the definition of a volumetric normal or standard solution as accepted by chemists is therefore as follows:—A normal solution contains in 1,000 c c. the eqivalent in grammes of the active substance; a solution of one-tenth the strength is called a decinormal solution, $\frac{N}{10}$, and one of one-hundreth a centinormal, $\frac{N}{100}$.

Volumetric Solution of Bichromate of Potassium.—Bichromate, $K_2Cr_2O_7 = 295$. The B.P. solution contains 14·75 grammes $K_2Cr_2O_7$ (*i.e*, $\frac{1}{20} K_2Cr_2O_7$) per litre. Bichromate solution is used in presence of excess of dilute acids as an oxidising agent (officially for the oxidation of ferrous to ferric salts); in this solution oxygen is regarded as the active substance, the chemical equivalent of which is 8. In acid solutions a gramme molecule of $K_2Cr_2O_7$ may be regarded as acting thus, liberating 3 × 16 = 48 grammes of oxygen available for oxidation purposes. From equations which the author submitted it appeared that 49 grammes of bichromate contain the gramme equivalent of oxygen, and this quantity of $K_2Cr_2O_7$ dissolved in water up to a litre would constitute a normal solution. A decinormal solution might be adopted. For iron he suggested a decinormal solution of potassium permanganate, $K_2Mn_2O_8$, or 3·16 grammes per litre, as 1 molecule of the salt yields 5 molecules (10 equivalents) of oxygen.

Volumetric Solution of Soda should be entitled "normal volumetric solution of soda," as it is so. So also in the case of volumetric solution of oxalic acid. The solution of nitrate of silver is decinormal, and so are volumetric solutions of iodine and hyposulphate (thiosulphate) of sodium.

There was no discussion, and a brief compliment from the President was conveyed to the author.

Remarks on the British Pharmacopœia with reference to Securing the more General Use of the Work and Recognition of an Imperial Character.

By C. Symes, Ph.D., Pharmaceutical Chemist.

If it were absolutely necessary that a British Pharmacopœia should be perfect and complete in all its details, the task of production would be an exceedingly difficult one, and if the work were made to comprise the pharmacy of all our dependencies, the difficulties would be almost insurmountable. But perfection is not in the ordinary nature of things, and although a reasonable attempt to reach near to it in such an important work as the Pharmacopœia is to be commended, the delay which would be caused by an overstraining of this point is to be deprecated. The colonists are thoroughly loyal in the matter of pharmacy, and the British Pharmacopœia is now largely used by them. There is, however, a large contingent of the foreign element present, and the French Codex and other Pharmacopœias and works are consequently in request. Then the natives have local remedies in use, and they have different methods of preparing and using some of the remedies already existing in the B.P. If, therefore, it is deemed desirable to extend the use of the work in these various countries, not only will it be necessary to include some additional drugs, but a number of formulæ must be added. In framing these, consideration must be given to the wants and conveniences of the various peoples. For example, concentrations, which have become rather an abomination in English pharmacy, must be maintained, and possibly their number increased on account of the fact that the facilities for transit in newer countries are not so great as in this. Now, the suggestions from our medical and pharmaceutical friends in the various parts of the British possessions will help materially in this matter; but, of course, it will be impossible to include everything that is suggested, and a reasonable selection will be necessary. British influence extends far beyond British rule, and we may hope at some time to take this fact into consideration in the publication of a Pharmacopœia. In South Africa, not only at the Cape, but so far up country as Johannesburg, pharmacy is practised almost precisely as in England, and the British Pharmacopœia is more used than any other. In Brazil the B.P. is used, but not so much as the French Codex, the Formulario e Guia Medica of Chernoviz being used more than either of them, not merely because it is published in the Portuguese language as there spoken, but on account of its containing some particulars concerning native drugs, therapeutical notes, and other matters of interest to the medical profession. Now, this raises the question, Is the work to become the Imperial Pharmacopœia of Great Britain and her colonies? and, if so, what is it to comprise?

Pharmaceutically, there are those who would cut it down to very small dimensions, giving the least amount of information on the smallest number of drugs and preparations; whilst others would have it not only what it now is, but a handbook of chemical analysis and a text-book for students. Medically, there are those who would be quite satisfied if the book contained nothing more than formulæ for compressed tablets; whilst others would have it a complete treatise on medicine and therapeutics. Obviously, discretion would suggest the happy mien.

The Medical Council is the body charged with the production and publication of the work, and it may be—indeed, has been—said that we, as pharmacists, have really nothing to do with what it should, or should not, contain. But this is merely a statement—it is not argument—and merely calls for the reiteration of what I have many times said—viz., "that the Pharmacopœia Committee ought to consist partly of pharmacists." I would not advocate that the work should be rendered too voluminous; but it is worth consideration as to whether its usefulness and general adoption would not be advanced by some additions. In 1867 doses of the various drugs and preparations were for the first time appended, and this step has proved very valuable both to physicians and pharmacists.

The proposal to supplement the weights and measures in the new edition by quantities according to the metric system will be appreciated by many. May not a posological table be added, in which the doses have their equivalents given according to this system?

It is quite a common thing for medical men to inquire what is the solubility of various substances in water, alcohol, &c. Could not a table of solubilities be added of sufficient value to justify the use of the space it would occupy? A therapeutical table would be frequently referred to by medical men, and the more they look to the work for information the more likely are they to prescribe the remedies and formulæ contained therein. A secondary list of new drugs still under trial, and old ones gradually becoming obsolete, would be an acquisition. It is undesirable that too frequent changes in the body of the work should occur, but such changes could be made in the secondary list without inconvenience, and, if thought desirable, a new one could be published between the new editions of the Pharmacopœia. Broadly, it may be said that additions of this kind, which will render the work more useful at home, will cause it to become more popular abroad, where it is our desire and our interest to make it so. The opening up of Africa is likely in time to enrich our materia medica. Quite recently we had to prepare fluid extracts from some African drugs sent over for that purpose, with a view to getting reliable data as to their efficacy in their native country. They were as follows :—Shagarai-bark, egirah-bark, ehghessy, shappo, gloyboinsha, egiatab, ghamgha, black plum, yellow plum, and finger-root. Now, no one would expect all of these to get into the Pharmacopœia; but if two or three of them showed evidence of undoubted value, they would first appear in the secondary list, and ultimately one may get into the body of the work. Tables could be added which would make the work more useful for reference by pharmacists; but I take it that these are unnecessary, as, if it is more frequently used by the medical profession, increased use by pharmacists is sure to follow.

Discussion.

12.0. The President said this paper showed once more how much they were indebted to their senior honorary secretary, Mr. Naylor, for getting material to discuss at these meetings, and he almost felt in thanking Dr. Symes that they should add thanks to Mr. Naylor.

Mr. **Holmes** said the paper was an excellent argument for the inclusion of pharmacists in the Pharmacopœia Committee. The very fact that medical men used Squire's "Companion" and Martindale's "Extra Pharmacopœia" in preference to the British Pharmacopœia, showed that the medical profession appreciated the work of pharmacists.

Mr. **Bird** said he had always felt how advantageous it would be for the Pharmacopœia to give general characters for tinctures, and explanations of the tests that were given in the Pharmacopœia. It was very gratifying, he thought, that there were so many references in Professor Attfield's Pharmacopœia reports to Conference communications.

Mr. **Carteighe** said he might mention without breach of confidence that the Pharmacopœia Committee appreciated the work of the Conference so highly that any formulæ which had been approved by the Formulary Committee were admitted into the Pharmacopœia without discussion. (Applause.)

Mr. **Conroy** suggested the introduction of solubilities into the text of the Pharmacopœia rather than as a table.

Mr. **Alcock** asked if it was proposed to admit the posological table from the Pharmacopœia. (Cries of "No, no.") He thought he had heard something to that effect; but he was very glad to know that this was not proposed, as doses were of the greatest value to students and practitioners.

Mr. **Druce** said he was very much pleased with the paper, and, in reference to the introduction of the metric system, said that while it was good to have it as an alternative, he would now express the same opinion as he had done as an examiner (if he might be allowed to speak without revealing the secrets of the charnel house), that when the introduction of the metric system into the practical dispensing was proposed, he said, "No." Not because he was opposed to the system, but because he thought it was a coming thing, and they should only take it gradually. The time was far distant when medical men would write their prescriptions in that way. Indeed, they were rather apt at present to write them in such a way that it was scarcely necessary to take them to pharmacists to dispense them. (Laughter.)

Mr. **Collier** said that medical men desire a Pharmacopœia which would give them information of use in prescribing the medicines. For example, the solubilities as in the case of potassium chlorate would be of value.

Mr. **MacEwan** said there were two sides to this question of solubility-factors for the Pharmacopœia, and it might be well for pharmacists to state precisely what they wanted; for, if the Pharmacopœia authorities introduced solubilities, which were part and parcel of the characters and tests, criticism might quickly follow. They could either have the solubilities in that way, or a table of rough solubilities which would be of use to medical men and dispensers; but some discrimination should clearly be made between the two things.

Mr. **Bowman** made some remarks regarding the relative density of preparations.

The **President**, in summing up, said that a great deal had been written regarding the British Pharmacopœia during the past nine months, and he thought it may be taken for granted that the new Pharmacopœia would contain a number of practical facts based upon suggestions made by various writers. He had been one of those who criticised the 1885 Pharmacopœia, but, as he was now a member of the Pharmacopœia Committee, he might not be so free to criticise the next one. They ought not to overlook the fact that the 1885 Pharmacopœia was a distinctly high-class production. The Americans had copied from it their methods of standardisation, and other matters; and although the Americans considered that they were far ahead of English pharmacists in regard to methods of practice, it was significant that our Pharmacopœia had been a guide to them. One point he could not help giving expression to—namely, that most of the 14,000 copies of the last Pharmacopœia were bought by pharmacists, and very few by medical men; but he trusted that a similar proportion of the 35,000 medical practitioners would purchase the next Pharmacopœia and use it.

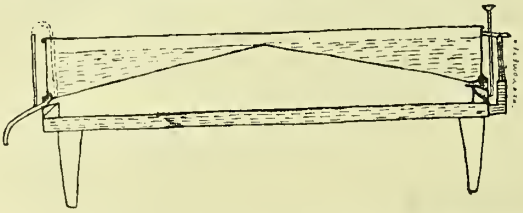
Dr. **Symes** said that several points raised had been answered by various speakers; and he confined himself chiefly to the question of introducing pharmacists on the Pharmacopœia Committee. That, he said, was one which they ought not to neglect, and he hoped he would have very great support in regard to the matter. He was too closely allied with medical men to say anything against them—(hear, hear)—nevertheless, the fact that the General Medical Council had recognised the work of pharmacists so fully showed that they appreciated the service, and that in itself was a sufficient argument for giving pharmacists their proper status in revising the Pharmacopœia (Applause.) As to solubilities, that had been freely discussed. He was in favour of the suggestion not to include them as characters and tests. A great deal had been said regarding that little word "about." But it was known that Professor Attfield had used it, wisely and well, and if they had solubilities put down in the same way they would be satisfied.

12.15. A paper was then read on

Recovery of Alcohol from Tincture-marcs.

By F. C. J. Bird.

The paper was a description of an apparatus here illustrated. After referring to Mr. R. H. Parker's communication at the last Conference, the author said that on the large scale the displacement method is impracticable, and pressure with subsequent recovery of residual spirit by distillation is necessary. This distillation can be done by first washing the pressed marc with water and distilling the washings, or placing the pressed marc directly in a still with water, thoroughly agitating, then distilling. Various little tricks have to be resorted to, especially when the marcs are mucilaginous or starchy, and the distillate comes over so weak that redistillation becomes necessary. Taking advantage of the surface-condensation principle, and a hint from a note by Professor W. G. Gregory, reprinted in the *C. & D.*, June 22, 1889, from the *Pharmaceutical Record*, the author has devised the condenser here figured in section. This consists essentially of a water-bath to which a cone-shaped condenser is applied. The lower part of the apparatus is the water-bath. It is of large area and very shallow, and is furnished with a side tube for a thermometer. The condenser is a circular water-tank of the shape as shown, and the edge terminates above a V-shaped trough round the inner edge of the water-bath. This trough is cooled by a cold-water jacket underneath, and is inclined, so that all liquid runs out by the exit-tube leading out from it. The water-pipes are so arranged that the current of cold water passes first round the collecting-trough and then into the condensing-cover, which rests on a flange in the water-bath. This joint is secured by luting. The measurements of the apparatus are: diameter, 18 inches; depth of water-bath, 2 inches; height of cone in centre, 3 inches. In operation the marc is spread evenly over the bottom of the water-bath, the



condenser luted on, filled with water, and heat then applied. Evaporation quickly takes place at a remarkably low temperature, proof spirit coming away at 80° F., and 140° F. at the highest. As examples of the efficiency of the apparatus the author stated that 24 oz. of tr. aurantii marc were placed in the still, the bath containing water at 180° F., and over night 7 oz. of 21 o.p. spirit distilled. The marc from 80 oz. tr. rhei, containing approximately 20 oz. of tincture, yielded with heat 21 oz. of proof spirit. The author referred in his concluding sentences to Dicker's patent as applied to cone-shaped condensers, and expressed the opinion that the patentee may put this particular form on the market.

Discussion.

12.26. Mr. J. C. Umney said the use of the apparatus would require a still-licence, which would limit its use by retail chemists.

Mr. Conroy thought the apparatus would be a useful one for those who made small quantities of tinctures, its advantage being that the distillate was much stronger in alcohol than was generally obtained. He thought it impossible, however, to apply the principle to the recovery of spirit from large quantities of tincture-marcs.

Dr. Symes said that they ought to thank Mr. Bird for his paper, because it was by explaining the use of such things as these at their meetings that they interested pharmacists in products. That was important, and in saying that he was not pitting himself against the manufacturers. On the large scale the use of the mechanical agitator was an immense inconvenience, and such a device as this could be turned to a useful purpose. (Hear, hear.)

The President said there was no disposition to pit the manufacturer against the retailer; but it was necessary that the pharmacist should be able to make a pint of tincture, that being the intention of the Pharmacopœia and of the Pharmaceutical Society.

Mr. Bird said the Excise authorities would, of course, regard the apparatus as a still. The still was capable of taking 2 lbs. of dry marc, and he had brought some marc with him to show how it was done, but there was no facility for that.

The President said if in the future anyone who was to read a paper would give the local secretary notice beforehand, proper arrangements would be made.

12.34. The next paper was one on

Syrup. Hypophos. Co., B.P.C.

By W. A. H. Naylor.

At the Oxford meeting of the Conference last year a paper entitled "Laboratory Notes" was read by Mr. F. C. J. Bird, in which the statement was made that the sulphuretted odour sometimes emitted by syrup. hypophos. co., B.P.C., resulted from the reduction of sulphates by the free hypophosphorus acid present in the preparation. To me the statement was a startling one, but my inability at the time to disprove it by reference to experiments of my own or those of others induced me to refrain from comment. The desire to prevent the fixation of what I believe to be a wrong impression must be my apology for presenting this simple note. To arrive at a decision on this question, the following experiments have been made:—

(*a.*) Potassium, sodium, and calcium sulphate were dissolved separately in a 15-per-cent. solution of hypophosphorus acid in the proportion of 20 gr. to the fluid ounce. To detect faint traces of sulphuretted hydrogen or sulphurous acid the operation was conducted in the apparatus to be presently described for the testing of phosphoretted hydrogen, the reagents (cup content) in this instance being starch iodide or free iodine V.S. At the moment of mixture no odour was recognisable, and during the fortnight the several solutions were under observation the liquid in the cup did not become decolorised. In a second series of the same solutions, coils of filter-paper, impregnated with lead acetate and kept continuously moist, were suspended for three weeks. At the end of that period no discoloration of the lead paper had taken place in any of the solutions. On the addition of 0.2 per cent. of sodium sulphite to any one of the solutions, evidence was shortly afforded of the liberation of sulphuretted hydrogen.

(*b.*) Ten grains each of potassium, calcium, and manganese hypophosphite, and the equivalents of ferrous hypophosphite in solution, all of which contained small quantities of sulphates, were severally shaken up with ½ dr. of hypophosphorous acid (30 per cent.), 3½ dr. of water, and 1½ oz. of syrup. No sulphuretted odour could be detected either at the time or during the period it was set aside.

(*c.*) Alkaline sulphates were dissolved in a 15-per-cent. solution of hypophosphorous acid and boiled, with the result that neither sulphuretted hydrogen nor sulphurous-acid gas was evolved, nor was sulphur precipitated.

(*d.*) Syrup. hypophos. co., B.P.C., made from ingredients containing small quantities of sulphates, but free from sulphites, afforded no trace of sulphurous acid or sulphuretted hydrogen.

These results distinctly negative the idea that sulphates are reducible by hypophosphorous acid under conditions that would be likely to exist in the making and storing of syr. hypophos. co., B.P.C.

If the bad odour occasionally emitted by this syrup be not traceable to the reduction of sulphates by hypophosphorous acid, to what is it due? My experience points distinctly to sulphites as the incriminating substance. When to an alkaline sulphite an aqueous solution is added an excess of hypophosphorous acid, sulphurous acid, and then sulphuretted hydrogen are formed, and can be recognised by their smell. After the solution has stood for a time it will be found that all unpleasant odour has disappeared, sulphur has deposited, and an equivalent portion of hypophosphorous acid has become converted into an alkaline acid phosphite. Pondorf has shown that dry sulphur dioxide reacts with hypophosphorous acid in the manner indicated by the equation—

$$2PO_2H_3 + SO_2 = 2PO_3H_3 + S,$$

the principal products being phosphorous acid and free sulphur. He further remarks that at the same time hydrogen sulphide is evolved, and some phosphoric acid is formed.

It may be mentioned, as the result of direct observation, that 1 gr. of sodium sulphite in 1 pint of syrup. hypophos. co. suffices for the production to a pronounced degree of sulphuretted hydrogen.

I have not met with a sample of a hypophosphite which contained a sulphide or hyposulphite, or any impurity other than a sulphite to which a sulphuretted odour could be referred.

As a phosphoretted is not dissimilar to a sulphuretted smell, and as the presence of one or the other could not be identified by the nasal organ in a mixture of both, it seemed desirable to apply some chemical test by which this recognition could be effected. The required test, the efficiency of which has been repeatedly verified by me, is based upon the ready solubility of reduced silver and the insolubility of silver sulphide in dilute nitric acid. It may be advantageously applied in the following way:—To a strong aqueous solution of a hypophosphite in a W.M. glass-stoppered bottle add a little diluted sulphuric acid and shake vigorously. If, after standing, a bad odour develops, the glass stopper is replaced by a sound cork. In the centre of the undersurface of the cork there has been inserted a narrow glass tube, the opposite end of which is bent upwards and shaped like a small cup. Into this cup a few drops of silver-nitrate solution have been placed. By this means the test-solution is brought into immediate contact with the vitiated atmosphere above the liquid. After a short time the blackened contents of the cup are collected on a filter, washed free from soluble silver salt, and treated with dilute nitric acid. If the liquid (filtrate) responds to the tests for silver it must be assumed that phosphoretted hydrogen was present; if the deposit remained insoluble, or was only partly soluble, in dilute nitric acid; and if sulphur separated when it was heated with nitric acid, it must be inferred that sulphuretted hydrogen was present. Of a number of samples of hypophosphites which I have recently examined, not one gave, when suitably treated, an odour that could be traced to phosphoretted hydrogen.

The results of my examination of commercial samples show that, of five samples of the potassium salt, all contained traces of sulphates, phosphites, and calcium, one contained sulphite, and two traces of chlorides. Sulphates, phosphites, and calcium were found in five samples of sodium hypophosphite, and sulphite and chloride were absent from one only; but of five samples of calcium hypophosphite none contained sulphite or chloride, although all showed more or less markedly the presence of sulphate and phosphate, and three the presence of phosphite. Barium and manganese hypophosphites contained sulphates, phosphites, and chlorides, and hypophosphorous acid traces of sulphuric and hydrochloric acid, and 0 232 per cent. of H_3PO_3.

It thus appears that phosphites were present in every sample save one. To detect phosphites an aqueous solution of the hypophosphite was acidified with acetic acid precipitated with lead acetate, and the washed precipitate decomposed either with sulphuretted hydrogen or diluted sulphuric acid, the latter reagent being the more convenient. To the clear filtrate from the lead sulphide, or sulphate, was added a slight excess of mercuric chloride, and the whole was heated for about an hour to 80° C. The precipitate in every case was tested, and proved to be wholly or in part mercurous chloride. In testing for chlorides the Pharmacopœia of the United States requires that after heating 10 c.c. of a 5 per-cent. aqueous solution of sodium hypophosphite with 1 c c. of nitric acid, the solution should remain clear upon the addition of silver nitrate T S For the direction "after heating" I would substitute *after heating in a test-tube in a water bath for an hour*. By following this more definite instruction the object in view is attained.

The precipitate thrown down by lead acetate is not necessarily a single compound, but it may consist of lead sulphite, sulphate, phosphite, and phosphate respectively, or of a mixture of two or more of these, and, possibly, other impurities. As a test it is severely exclusive, but is lamentably lacking in discriminative qualities. One word on the keeping-properties of syrup. hypophos co., B P.C. When made with commercially pure ingredients, the syrup can be stored in bulk in glass-ware for three or four weeks without becoming cloudy or depositing. It must not be forgotten that its tendency to change is inherent, and that upon its natural instability, or the facility with which it decomposes, its value as a remedy is understood to depend. If it be desirable to prolong the period during which the syrup ordinarily remains bright, this may be done by adding to the present formula potassium citrate in the proportion of 80 gr. to the pint.

Discussion.

Mr. Bird said that if a sample contained sulphite it was likely to contain sulphate too. Could Mr. Naylor explain the cause of the odour induced when beetroot sugar is used?

Mr. J. C. Umney said he had experienced the same trouble in regard to liq. hypophos. co. (Churchill), and he found that all the calcium hypophosphite contained traces of phosphite. On communicating with the manufacturers they said that, try all they could, they could not get rid of this impurity. He also mentioned that he had found ammonium citrate even better than the potash salt for keeping the syrup bright.

Mr Grose having complimented the author,

Mr. Naylor replied. The beetroot-sugar difficulty was due to ultramarine or sulphite in some form. His advice in regard to the odour was, Reject all samples of hypophosphites which contain sulphite Since the paper was written, his attention had been called to a paper by Mr. Gibson, read many years ago, in which he dealt with this subject very fully, and he also showed that the reduction of sulphuric acid to sulphite, and the subsequent decomposition of that, gave rise to the sulphuretted odour. Mr. Gibson was really the first to point out the difficulty.

12 50. Mr. J. C. Umney read the next paper, which was on

Abstract of a Note on a Sample of Spurious Tolu Balsam.

By J. Oldham Braithwaite.

The author reported on a sample of spurious balsam of tolu which appeared on the London drug market this spring, *viâ* New York. The balsam was described as not differing very widely in physical characters from the official article, except in that it shows but few crystals of cinnamic acid when examined *sub lente*. It was found, however, that when treated with carbon bisulphide a large percentage was dissolved; and, further, that when the solvent was evaporated the residue was totally distinct from that obtained from genuine tolu balsam, being resinous, and resembling dark Canada balsam, while that from genuine samples was almost wholly crystalline. The saponification number of these two residues was found to differ very widely, so that this method of testing is considered useful in examining specimens of the drug.

The following results were obtained in examination of samples:—

Sample	Character	Per cent. Sol. in CS_2	Characters of CS_2 Residue	Saponification No. of CS_2 Residue
No.				
1	Museum spec.	30·7	Pinkish white crystals	320
2	Spurious	64·1	Bright resinous, resembles hard Canada	216
3	"	76·36	"	211
4	"	77·23	"	226·1
5	"	75·8	"	214·5
6	"	65·28	"	224·7
7	"	67·24	"	217
8	Genuine	22·86	Crystalline mass	303·5
9	Doubtful	45·6	Partly crystalline	286·5
10	Genuine	17·78	Crystalline mass	352·7
11	"	33·8	"	331
12	"	20 14	"	340
13	"	27·1	"	364

The suggestion is made that the following additions might with advantage be made to the characters and tests of tolu balsam in the Pharmacopœia:—

"When 5 parts are gently warmed with two successive portions of 25 and 10 parts respectively of carbon bisulphide, and the solvent decanted into a tared flask, the residue on distillation should be distinctly crystalline, and every 1,000 parts of this residue should require for its saponification not less than 300 parts of potassium hydrate."

Although the source of the resin soluble in CS_2 has not been determined, it is considered somewhat significant that the saponification number of a freshly-prepared sample of copaiba resin was found to be 204.

Discussion.

12.59. Mr. John Moss said this was good work. Commercial tolu balsam was not like what it used to be; and, when some of the old stuff came in recently, it was eagerly bought up by the wholesale druggists. It was good to have such a method of testing as this one brought before the Conference.

Mr. Holmes said the specimen which he had given Mr. Braithwaite was taken from an original tin of the balsam which had been in the museum twenty-three years ago. More than once he had seen spurious balsam, and he pointed out that a ready way of detecting it was to heat some of it, put it on a slide, and examine it with a low-power microscope. If it was not crowded with crystals, it was not a good article.

The President said that city men were in a position to give retailers points about things such as this, and it was a pleasure to thank Mr. Braithwaite for bringing the matter before them.

The Conference adjourned for luncheon at this point—1 o'clock.

Afternoon Proceedings.

Resuming at 2 30, Mr. Ransom, in presence of an audience numbering about forty, read a paper on

The Quality of Commercial Powder of Ipecacuanha.

By Henry G. Greenish, Professor of Materia Medica to the Pharmaceutical Society of Great Britain.

The author has previously shown that ipecacuanha-root, whether Brazilian or Cartagena, may be distinguished as such in the form of powder by (*a*) the shape and size of the starch grains, (*b*) the absence of vessels, presence of perforated tracheids, (*c*) the acicular raphides, and (*d*) the emetine reaction with chlorine. The stem may be distinguished from the root (in powder) by (*a*) the presence of sclerenchymatous cells, (*b*) of lignified cells of the pith, and (*c*) of spiral vessels. Cartagena ipecacuanha may in most cases be distinguished from Brazilian by the larger size of its starch grains.

As the majority of pharmacists, if not all, purchase powdered ipecacuanha, it must be regarded as essential that the retailer should be in a position to exercise a control over the powder so supplied. For this purpose the assay as at present effected is insufficient. It is not enough to know that a powdered ipecacuanha contains 2 or 2·5 per cent. of alkaloid for a mixture of sawdust, and the alkaloid might comply with such requirements. In point of fact, in judging the quality of a powdered drug by the proportion of alkaloid it yields, two assumptions are commonly made—first, that the alkaloid extracted consists of nothing but the alkaloid pre-existent in the drug; secondly, that such alkaloid is the sole active principle in the drug and alone regulates its physiological effect. Both these assumptions may be incorrect, and a microscopic examination is really a necessary supplement.

Before such examination the microscopist must make himself familiar with the structure of the typical drug, as well as its principal variations. The author obtained thirty-two samples from pharmacists, and carefully examined them with the view of ascertaining—first, whether they consisted of genuine ipecacuanha; secondly, from what commercial variety they had been prepared; and, lastly, the commercial quality of the drug that had been used. The results are embodied in the following table:—

Sample	Variety	Principal Microscopical Features	Quality
1	Brazilian	No stem, much parenchyma, little wood	Very good
2	„	Stem present; woody; occ. foreign fibre	Medium
3	„	Not much stem; coniferous tracheids; foreign fibre	Medium
4	„	Not much stem; woody	Medium
5	„	Stem present; fragment of leaf ..	Medium
6	„	Stem present; coniferous tracheids; woody	Medium
7	„	Much stem	Medium
8	„	Stem present; woody	Medium
9	„	Stem present; woody	Medium
10	„	Not much stem; not much wood ..	Good
11	„	Not much stem; much too woody; overheated	Bad
12	„	Not much stem; not much wood; coniferous tracheid	Good
13	„	Not much stem; not much wood; occ. fibre	Good
14	„	Much stem; very sandy	Bad
15	„	Not much stem; not much wood ..	Very good
16	„	Much stem; fragment of leaf.. ..	Medium
17	„	Not much stem; occ. fibre; conif. trach.; very woody	Bad
18	„	Not much stem; woody	Medium
19	„	Very little stem	Good
20	„	Not much stem; not much wood ..	Good
21	Cartagena	Stem present; woody	Medium
22	„	Very little stem; not much wood ..	Good
23	„	Stem present; woody	Medium
24	„	Stem present; woody	Medium
25	„	Much stem; woody	Bad
26	„	Much stem; woody	Bad
27	„	Very little stem; not much wood ..	Good
28	„	Stem present; not much wood ..	Good
29	„	Very little stem; rather overheated..	Good
30	„	Much stem; woody	Bad
31	[illegible]	Much stem; woody	Bad
32	„	Little stem; woody	Medium

None of the samples examined showed the presence of any adulteration in the shape of foreign starch or foreign drugs. The presence in four of unduly numerous coniferous tracheids indicate possibly only carelessness in cleansing the mill rather than wilful adulteration. Twelve samples out of the thirty-two proved to be powdered Cartagena ipecacuanha; it is possible that amongst the twenty classed as Brazilian there may be some few that are in reality Cartagena, and that amongst those classed as Cartagena there may he some which are mixtures of Cartagena with Brazilian. As Cartagena ipecacuanha is not at present B.P, it must be regarded as a substitution.

Only one sample can claim to be regarded as the powder of really good Brazilian root free from stem, and it seems that much of the powdered ipecacuanha sold by pharmacists contains an undue proportion of stem and wood.

The results of the examination may be summarised as follows:—Good Brazilian, 22 per cent; medium Brazilian, 31 per cent.; bad Brazilian, 10 per cent.; Cartagena, 37 per cent. Ranwez and Campion have shown that powdered ipecacuanha of Belgian commerce may be classed as follows:—Normal (Brazilian), 15 per cent.; too woody, 40 per cent.; Cartagena (wholly or partly), 15 per cent.; false cultivated ipecac.* (wholly or partly), 30 per cent. It would thus appear that English powdered ipecacuanha is distinctly better than Belgian.

Discussion.

2 42. The **President** remarked that the Conference was very much indebted to Professor Greenish for sending the paper, and they regretted that the professor was unable to be with them. There were several important points in the paper, and there was no doubt that, whilst chemistry had had its own way hitherto, they would find in the future that pharmaco-histology would claim an equal place in the valuation of many of those older drugs which were, as they were frequently described, the sheet-anchors of medical men in the treatment of disease. There was no doubt that in the examination of drugs their histological and chemical characters must be in the province of the pharmacist if he was to provide the medical man with drugs which were to be of any value in the treatment of disease.

Mr. **Holmes** said he had had the pleasure of seeing what Professor Greenish had done in this matter. The time taken to prepare a paper of that kind was far greater than was generally imagined. When they found that histology was doing so much for the craft, he thought they might congratulate themselves that they had a man like Professor Greenish to take the pains and devote the necessary time to the preparation of such a paper. It was very gratifying also to see that the wholesale trade had largely benefited by what had been done. In Belgium, although they had histologists there, the wholesale trade did not appear to have taken notice of the facts as we had done. When they found that out of thirty-two specimens of English ipecacuanha there were none containing adulterant, he thought it was a matter of congratulation. They knew that there was a fair percentage of the alkaloids of the drug, but what those alkaloids were and what the percentage was they could not pretend to be certain of. But they were not in a position to throw away any chance of making the powder as effectual as possible. He looked to see in future in wholesale lists an ipecacuanha-powder marked with some indication to show that the woody portion had been removed.

Mr. J. C. **Umney**, in answer to Mr. Holmes's last point, said his firm had been in the habit for six months or more of putting on their prices current "Powdered Ipecacuanha from root only." Until recently the ipecacuanha as imported contained quite a small percentage of stem, but during the last year or so it had contained as much as 30 or 40 per cent., and on analysis of the stems it became necessary that something should be done on behalf of some of the wholesale druggists. Professor Attfield and others had made an examination of the hand-picked root, and had given it as their opinion that the root contained a larger proportion of alkaloids than the stem.

The **President**: Have you made an analysis of the stem?

Mr. **Umney** replied that he had, and had found the proportion of the alkaloids in the stems and roots is three-fifths of what it is in the hand-picked root.

The **President** then formally recorded the thanks of the Conference to Professor Greenish for his paper.

2.56. A paper on a cognate subject was next read—viz., on

Acetic Extract of Ipecacuanha.

By F. C. J. Bird.

This was a record of experiments made with the view of reducing the great alkaloidal loss entailed by the Pharmacopœia method of making vin. ipecac. The loss is occasioned by heating the acetic extract to dryness, so as to fit it for pulverisation. Mr. Bird proposes a triple method of extraction: first percolating with rectified spirit, then with acetic acid, and, finally, with dilute acetic acid; evaporating the menstruum and drying the extracts separately, then mixing.

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* By this designation is meant the drug offered at the London sales as "East Indian root," probably the rhizome of *Cryptocoryne spiralis*.

The loss of alkaloid in the official method is over a fourth (26 8 per cent.), but by Mr. Bird's process this is reduced to 8 7 per cent. Substantially, he advocates the use of a weaker acetic menstruum than the Pharmacopœia one.

Discussion.

3.3. Mr. Ransom said there is no doubt there is great loss of alkaloid in drying the extract. It would be better if the extract were not evaporated to complete dryness, but standardisation of the preparation was really necessary. We also require more precise information regarding the relative potency of emetine and cephaeline upon which Paul and Cowley are now working.

Mr. Moss said that the work of the last-named chemists showed that the decomposition in the extract occurred in the final stage of evaporation, when the last traces of acetic acid interacted with the alkaloid. His idea was that they should operate by making each batch of the powdered ipecac. acid with acetic acid, then treat with the menstruum; but he thought that we require more information on the subject.

Mr J. C. Umney was glad that Mr. Bird's results confirmed previous observations that a weaker acetic menstruum is bad, and that the decomposition occurs on drying the extract to allow of pulverisation. Paul and Cownley had shown that hydrochloric acid was as well suited for the extraction of the alkaloid as acetic, and had not the objection of decomposing the alkaloid. Why should they not use that?

The President said he was opposed to the B.P. process, and he thought they might stop shorter in evaporation, standardising the wine afterwards. He found that there was still a demand for the old wine.

Mr. Bird then replied, saying that, of all processes proposed, the one he liked best was Umney and Braithwaite's, in which the fluid extract of ipecac. is used.

3.12. Mr. Ransom read a note on

Tincture of Lobelia.

By J. F. Liverseege, F.I.C.

The B.P. orders lobelia to be in No. 40 powder, which may be possible on the large scale, but those who have to make only a pint of it find it more than difficult to get the leaf reduced to this degree in a mortar, as the stalks could not by any means be comminuted. It struck the author that the tincture of leaves *minus* stalks would be stronger than one of the stalks, and he tried, using Farr and Wright's method (*C. & D.*, xlii., 454). The following are the results:—

Source of Tincture	Colour	Sp. Gr.	Grammes per 100 c.c.	
			Extractive	Alkaloid
No. 40 powder ..	Dark brown	·9354	2 89	·052
Residual stalks ..	Brownish green	·9[illegible]87	1·56	·031
Calculated for herb ..	—	—	2 09	·039
Farr and Wright's average	—	—	2·20	·035
Wholesale tr. A ..	Olive green	·9309	3·44	—
,, ,, B ..	Brown	·9304	2·07	—
Retail ,, C ..	Brown	·9341	2·24	—

Mr. Liverseege's moral practically amounted to this—that the B P. should not give a direction which retail pharmacists cannot adequately carry out.

3.17. The last paper was on

Glycerine Tincture of Cinchona.

By Frederick Davis.

The purport of this paper is merely to show, by experimental data, that a better tincture of cinchona may be prepared by using glycerine with spirit for the exhaustion of the bark than by employing spirit only. In each sample of tincture estimated, the spirit employed was as recommended by Farr and Wright—namely, 70 per cent. by volume; but, in addition, 10 per cent. of glycerine was employed.

I have tabulated as clearly as possible the results obtained, which speak more forcibly than words.

The bark was in all cases estimated for total alkaloids by the B.P. process, whilst the respective tinctures obtained therefrom were estimated gravimetrically. The bark was reduced to No. 60 powder, and each estimation was conducted three times, the resulting average being tabulated.

The specific gravities of the tinctures varied from ·921 to ·964.

Comparative Table of Cinchona Tincture and Glycerine Cinchona Tincture.

No. of Sample	Percentage of Alkaloids in Bark	Percentage of Alkaloids in Spirit Tincture	Percentage of Alkaloids in Glycerine Spirit Tincture	Percentage of Extractive from Spirit Tincture	Percentage of Extractive from Glycerine Spirit Tincture
I.	5·3	1·17	1·2	7·54	7·62
II.	4·7	·92	·96	5·17	5·26
III.	6·2	1·29	1·33	8·02	8·3[illegible]
IV.	4·9	·93	·95	5·18	5·25
V.	5·4	1·15	1·22	7·53	7·38
VI.	5·2	1·20	1·27	6·01	6·28
VII.	5·8	1·19	1·22	5·98	6·07
VIII.	6·9	1·31	1·35	8·09	8·18
IX.	5·8	1·21	1·29	6	6·4
X.	5·6	1·18	1·17	7·32	7·30
XI.	5·9	1·21	1·25	7·52	7·55
XII.	4·8	·95	·99	5·12	5·28

It will be observed from the foregoing that, if bark of known strength in total alkaloids be employed, the results as tinctures are fairly constant, although, in one or two cases, a slight discrepancy may be seen, due, in all probability, to experimental error.

The President thought this would probably evoke a long discussion.

Mr. Umney, after eliciting from Mr. Ransom (who read the paper) that it was doubtful how much glycerine Mr. Davis used (he said 10 per cent.), remarked that allowing for that, there was no difference in the results of extractive.

Mr. Moss said tincture of cinchona was one of the most difficult of tinctures they had to deal with. If they had different species of bark containing the same percentages of alkaloid, they did not give tinctures of the same strength, because the alkaloid seemed to be differently combined in them. Mr Davis had in nearly every instance obtained the full yield of alkaloid, and sometimes more than the bark contained. He should explain that.

Mr. Bird said it was proposed to standardise tr. cinchonæ to contain ½ per cent. of alkaloid, and tr. cinchon. co. to contain 1 per cent.

The President hoped that Mr. Davis would be able to explain the discrepancies in his figures.

This concluded the reading of the papers. The Conference then proceeded to the official business.

Formulary Committee.

On the motion of Mr. J. C. Umney, seconded by Mr. Bird, the present Formulary Committee—consisting of Messrs. Martindale, Naylor, Abraham, Maben, Martin, Groves, Ransom, Wright, Greenish, R. Reynolds, and Symes—were elected.

Mr. T. B. Groves acknowledged the compliment on behalf of the other members of the committee.

Presentation from Bell and Hills Fund.

The President, again rising, said there was a great deal which fell to the lot of a President of the Pharmaceutical Conference which entailed responsibility and disturbed rest during his term of office. But there was one privilege that attached to the office which he, in common with his predecessors for some years past, was very glad to avail himself of. For some years past, whenever the Conference visited a town, they presented to the local Pharmaceutical Association of that town some books in commemoration of their visit. It devolved on the President, in the name of the members of the Conference, to make that presentation to the Chairman of the local committee. (Cheers.) Of course, in this case, as in every other, they consulted the local committee beforehand as to what books it would be advisable to present, it being useless to present them with books which they already possessed. They found that their Bournemouth friends were not only up to date in the literature bearing upon pharmacy, but they were even anticipating books which were in the press but were not ready. So that the books they were about to present to the local committee did not bulk so largely, and did not appear to be of such great importance as those which other bodies had received in other towns which the Conference had visited. Their Bournemouth friends had chosen "Thorpe's Dictionary of Chemistry," and they had also selected "Koener and Oliver's Natural History of Plants," which at this moment was being published. It was being published in two volumes, and when completed they would be added to the parts which he was then about to hand to the local committee. With the books presented by the Conference there were added two others presented by Mr. Thomas Hanbury in memory of his brother. He would not say anything about Mr. Bridge, the Chairman of the local committee, because they had seen so much of him during the last three days, and they had, he was sure, all formed the opinion that no more worthy recipient on behalf of the local committee could be found than he. (Cheers.) The President then formally presented the books amid applause.

Mr. **Bridge**, in acknowledging the compliment, said it was with a great amount of pleasure that he was there to receive the present from the "Bell and Hills'" Fund, and the other gift from Mr. Hanbury. He accepted them, however, with some diffidence, for, after the kind words of the President as to the choice of the books, he was bound to say that he had nothing whatever to do with it. The honour was due to their worthy local secretary. (Applause.) Mr. Hardwick gave them advice as to what they should choose, and the local Association was only too happy to fall in with his suggestions. They were very proud, indeed, to receive the books from the Conference. It might interest them to know that, although they were a local Society—of which he was very proud to be the President—they were a body without a home. They had no room which they could call their own for meetings. They met at each other's house very often, and sometimes at the Art Gallery. It had, therefore, been a question with them as to what they should do with that valuable present. They had a public library, and in that public library there was a reference library, out of which books were not allowed to be taken, but could only be read on the premises. They accordingly applied to the Town Council, to know if they would receive the books under certain conditions from them, and he was glad to be able to say that through the librarian of the town they had had a very favourable response. The librarian was to take charge of the books in the name of the Society. (Cheers.) The books would be there for reference by the public if they chose to refer to them, and to themselves as members of the Society, whilst they were to have the special privilege of being able, as members of the Society, to take the books out of the library, a privilege which no one else was able to enjoy. Moreover, they had reserved to themselves the right of by-and-bye, when the happy time came for them to possess quarters of their own, taking possession of the books entirely. He again thanked them for the present. (Cheers.)

Mr. **Hardwick** also said a few words in acknowledgment of the gift, assuring the members of the Conference that the books would be largely read by the members of the local association.

Mr. **Schacht** asked, as a member with some little experience in these matters, to be allowed to offer a suggestion to the Bournemouth Association. The local association at Bristol, he said, had experienced the same gratification of receiving presents of books from the Conference and from the Pharmaceutical Society, and they, too, had no home of their own. They adopted the identical course which was now proposed by the Bournemouth Association and placed the books in the library of the town. This experience had been very sad, for they found that individual members of the public were a little careless of property which did not belong to the individual member holding it for the time being, and some of the books had been damaged by fire. He, therefore, suggested to the Bournemouth Association that they should exert themselves to provide a home of their own as speedily as possible.

Next Year's Meeting.

The next item on the Agenda paper was the decision as to the place of meeting for 1896, and

Dr. **Symes**, rising amid applause, said it afforded him very much pleasure in the name of the chemists of Liverpool, including Birkenhead, to invite the members of the Conference to meet in Liverpool next year. It was now some twenty-five years since the British Pharmaceutical Conference met in Liverpool, and he regretted to say that a great many of those who were present then, and who were active workers for the Conference as visitors, and also of those who received them, had passed away. But he trusted, if the members were good enough to accept the invitation, that they would be equal to the occasion. They would do their best, at least, to provide them with suitable means of meeting and also with matters of interest outside the business. They had last year the advantage of meeting at Oxford—an extremely interesting city. This year they had one of the most charming towns, he supposed, in England for their meeting place, and the charms of it were so great that he was afraid they had very often been inclined to be late at the meetings. Next year, if they accepted this invitation, they would change again the character of the place, and he supposed he might venture to say they would meet in the second city of the Empire. It was a city which boasted miles of docks, immense numbers of ships, and some modern wonders—such as an elevated electric railway, the Mersey tunnel, and such things—whilst its warehouses contained produce from all parts of the world. He was sure that to an intelligent number of men such as composed the Conference the city would be of considerable interest. (Cheers.)

Mr. **John Smith** said a few words in extending the invitation from Liverpool. They in Liverpool, he said, were sensible of the splendid work which was being done by the Conference, and they felt it was a duty which fell to them to extend such hospitality as they were able to offer to the Conference. They also felt it their duty to extend the Conference and its influence. They had in Liverpool two very flourishing societies—the Liverpool Chemists' Association (one of the oldest in the country) and the Liverpool Pharmaceutical Students' Society, an equally flourishing institution. And with those two bodies he felt sure they had the machinery for making a visit to Liverpool—if the Conference should so far favour them—a successful one. (Cheers.)

Mr. **Groves** remarked that he had a lively recollection of the previous meeting at Liverpool, under the presidency of his very sincere friend, Mr. Stoddart. He would be pleased, indeed to repeat his visit there. There was an old saying that variety was charming, and it would be a great change from Bournemouth to Liverpool. (Laughter.) He had great pleasure in proposing that the Conference accept the invitation with many thanks, and with hearty anticipations of a very good time there. (Cheers.)

Mr. **Druce** seconded the proposal, raising a laugh by the statement that he had never seen Liverpool, but that he was told it had a very pleasant atmosphere, and was a pleasant town to those who knew Oldham. In Liverpool, they might strengthen themselves by coming in closer contact with more active minds, and, perhaps, more democratic tendencies. If it were true, as some of their critics had told them, that the Conference was not so active nor so representative as it ought to be, he had no doubt that to go to "the second city in the empire," would do much to remedy those defects. (Laughter.)

The **President**, in putting the resolution to the meeting, remarked that he was rapidly approaching dissolution, and he was exceedingly eager before he absolutely expired to do something which would be useful to the Conference. He should like to say, therefore, how cordially and how heartily he supported the resolution. It had been, perhaps, his misfortune—although in many ways he thought it had been greatly to his advantage—coming from such a robust and smoky place as Newcastle-on-Tyne, to preside at the Conference meeting at that charming place Oxford, and this lovely one, Bournemouth. If possible he would accompany the Conference to Liverpool next year, and the meeting, he hoped, would rehabilitate him and his nerves and mental energies. He was sure they would receive, and carry with all the acclamation possible, the proposal that they accept the invitation that the Conference went to Liverpool next year. (Cheers)

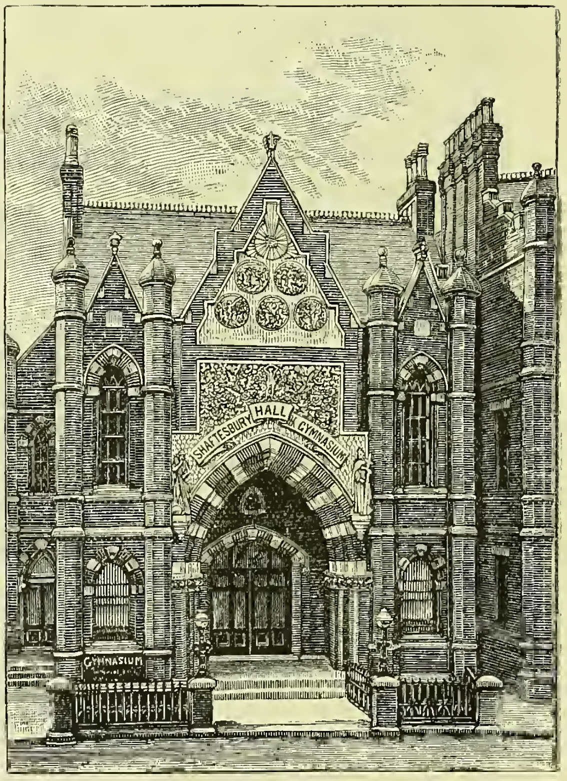
The resolution was then put to the meeting, and unanimously agreed to.

Dr. Symes, in reply, thanked the members of the Conference in the name of his friends in Liverpool for so cordially accepting the invitation. It would, he said, strengthen them in the belief that they would be able to entertain them as they ought to do, and as their facilities at Liverpool enabled them to do, and they might be quite sure of a happy Lancashire welcome. (Cheers.)

Votes of Thanks.

On the motion of Mr. Ewing, the proprietors of the Hotel Mont Dore were thanked for the use of the Winter Garden during the Conference.

The Invalids' Walk, Bournemouth.



Where the Meeting was Held.

This motion was seconded by Mr. Collier, and carried with acclamation.

Mr. Atkins proposed a vote of thanks to the local committee, including reference to Mr. Bridge, Mr. Hardwick, Mr. Bilson, Mr. Toone and Mr. Williams, for the successful manner in which they had carried out all the arrangements. He said that the meeting had been a most successful one, and at this juncture, when a certain part of the business was over, and they were looking forward to further enjoyment that evening and next day, it was proper that they should put it on record how much they appreciated the efforts of the local chemists. He was thus not unforgetful of favours to come, and he had no doubt that the remainder of this most pleasant meeting would be eminently enjoyable. He would allow no discount off this. (Laughter.) It must be rendered to the full. Whether they eclipsed Oxford, Liverpool or Timbuctoo was a thing which they might not decide, but of this there was no question—that Bournemouth held the field. To secure success two things were necessary—namely, careful forethought, and attention to details; and these they had received. He, personally, had much pleasure in the Conference, because he considered it in his locality. And, as Salisbury could not presume to entertain such a large meeting as this, he had felt in Bournemouth that he was at home. Mr. Atkins proceeded to refer in eloquent phrases to the scenery and beauty of the district, to the changes which had come over Bournemouth, which year by year had grown until it had become a veritable Chicago in the South of England. But it had also culture and elegant pharmacy flourishing in it, and for this they were thankful. Of each of the members of Committee he spoke in turn, and specially praised the efforts of the ladies of Bournemouth in entertaining the visitors from other towns.

Mr. Matthews seconded the motion.

The President, putting it, said that anything more unlike Chicago than Bournemouth he could not conceive. Chicago was a great place and a growing one, it was true, but unless for hospitality there was nothing in it like Bournemouth.

Mr. Stewart Hardwick, on rising to respond, was received as a local secretary has seldom been, the applause bordering upon the musical. He said it was a proud moment for him to receive this greeting and thanks on behalf of the chemists of Bournemouth, for he felt that the thanks were due to all; for each one on the committee, and some chemists outside the district, had worked hard to make the visit a success. Mr. Bridge had been responsible for the music, and Messrs. Bilson and Williams for the excursion-arrangements. Mr. Toone also had much assisted them by his sage advice. He now felt that some recent words of Sir Henry Irving's fitly expressed his feelings: they were, that the greatest honour that could be bestowed upon a man was the appreciation of his comrades and fellow-workers. (Hear, hear.) In the course of the Conference he had made one original observation—(laughter)—and, as he did not see the same thing recorded in the *Year-book*, he would give utterance to it, so that it might be recorded. It was that if anyone wanted to enjoy the Conference, he should first join it—(laughter)—then, having joined it, he should plan to get the Conference to his own town, and get himself nominated as Local Secretary. (Applause and laughter.)

It may be explained that Mr. Bridge was not present at this stage. Now there were loud calls of "Toone," and, responding to these, Mr. **Toone** rose and belied his confession that he was not a public speaker, for he spoke exceedingly well. One thing the Conference had done for Bournemouth chemists, he said, was that they had found out what good fellows they all were. (Hear, hear) By their regular meetings in each other's houses they had got to know each other. They had enjoyed the Conference visit, but he could not help giving expression to one thought. When the Medical Association visited the town the result was that twenty or thirty new doctors remained behind to practise. (Laughter.) He did not know whether any pharmacists were of the same mind, but he thought it his duty to correct a false impression—(laughter)—about Bournemouth being such a nice place. Mr. Atkins had said at dinner the previous evening that it was El Dorado. He knew Mr. Atkins well and long—he thought from the beginning of the century—(laughter)—and he was a poet. Well, the idea that Bournemouth was El Dorado was a poet's dream—the baseless fabric of vision; and to any who might think as the doctors had done, he would say, "I speak as a wise man; judge ye what I say." (Applause.)

Mr. **Bilson** briefly responded also, and Mr. **Williams**, both being called upon by the meeting, which had now reached the high-water mark of demonstrativeness.

ELECTION OF OFFICERS.

At this juncture Mr. **Prior Robinson**, on behalf of himself and Mr. Bascombe (they had acted as scrutineers), read the result of the ballot (as below), and Mr. Martindale's name was received with terrific cheering. Other names were applauded in a descending scale. There were calls for Mr. Martindale when the President had endorsed the report.

President.

W. Martindale, F.C.S., London

Vice-Presidents.

M. Carteighe, F.I.C., F.C.S., London
J. Laidlaw Ewing, Edinburgh
W. Hayes, Dublin
M. Conroy, F.C.S., Liverpool

Treasurer.

John Moss, F.I.C., F.C.S., London

Honorary General Secretaries.

W. A. H. Naylor, F.I.C., F.C.S., London
F. Ransom, F.C.S., Hitchin

Honorary Local Secretary.

T. H. Wardleworth, Liverpool

Other Members of the Executive Committee.

F. C. J. Bird, London
E. H. Farr, Uckfield
E. M. Holmes, F.L.S., London
Stewart Hardwick, Bournemouth
W. F. Wells, Dublin
Edmund White, B.Sc., London
R. Wright, F.C.S., Buxton
George Coull, B.Sc., Leith
J. Smith, Liverpool

Auditors.

F. Spinney, Bournemouth
A. S. Buck, Liverpool

The names of those now elected are in *italics*. The members who have retired are Mr. J. A. Toone (Bournemouth) from the Vice-Presidency. Messrs. Peter Boa (Edinburgh), G. E. Bridge (Bournemouth), J. Hodgkin (London), and H. Matthews (Oxford) from the Committee. Mr. Hardwick hands over the Local Secretaryship to Mr. Wardleworth, and Mr. C. Clayton ceases to be an auditor.

Mr. **Martindale**, in responding to calls, said a few words, which were simply to the effect that he had been told, when he occupied the chair before, that two years of it was the regular thing; but it did not suit him to follow on then. He was now pleased to complete his term, although he had some misgivings about presiding at Liverpool, where he had attended at the last meeting twenty-five years ago, when Mr. Stoddart presided; and it was his recollection of the success of that gathering which made him diffident to preside there. He would, however, do his best. (Applause.)

THANKS CONTINUED.

Mr. **Carteighe** moved the vote of thanks to the President (Mr. Martin), of whom he said some very nice things; but we have now exceeded our limits, and these pleasant amenities must be imagined.

Mr. **Moss** seconded, recalling the fact that he and Mr. Martin had attended Redwood's lectures together, used the same books, and all that sort of thing.

Mr. **Martin** replied, and referring to Mr. Carteighe's remark that he was a combination of the Cornishman and Northumbrian, said that there was one thing about him there was no doubt about—when it came to saying a thing, no matter how unpleasant it might be, if it was his conviction that it ought to be said, he said it. If that was what Mr. Carteighe meant, they could always depend upon him for that characteristic. (Applause)

Mr. **Schacht** moved the vote of thanks to the Honorary Secretaries, remarking upon the immense amount of work which they did. Although this was the last vote, the meeting braced itself together to give it a right send-off, and it was some time before Mr. **Naylor** could get in his word of acknowledgment; which said, Mr. **Ransom** emblematically patted him on the back as his guide, philosopher, and friend; and so the thirty-second Conference came to its technical end. Time, 4.35 P.M.

MEMBERS PRESENT.

The attendance-book was signed by the following. A few more were at the meeting who did not sign—*e.g.*, ladies. Also, it should be noted, many signed the book, but did not pretend to enter the hall, after the President's address, until the final proceedings. The average attendance at the sessions was about fifty.

Alcock, F. H., Birmingham
Amoore, J. S. S., Bournemouth
Arkinstall, W., London
Atkins, S. R., Salisbury
Barron, Wm., Chippenham
Basker, J. A., Bridgwater
Bates, J., Wellington (Salop)
Baxter, W. J., Coleraine
Beggs, G. D., Dalkley (Dublin)
Bilson, F. E., Bournemouth
Bird, F. C. J., London
Bird, Miss, London
Botham, W. Bland, Bournemouth
Bremridge, Louisa, London
Bremridge, R., London
Bridge, George E., Bournemouth
Bryan, Arthur, London
Buxton, Thomas, Clifton
Carteighe, M., London
Carteighe, Mary, London
Chipperfield, Robert, Southampton
Clark, J. W., Leicester
Collier, H., London
Conroy, A. J., Bournemouth
Conroy, M., Liverpool
Cormack, Dr. J. C., Bournemouth
Cowley, R. C., Liverpool
Druce, G. Claridge, Oxford
Dyson, W. B., London
Dyson, Mrs., London
Elborne, Wm., London
Endle, Frederick, Bournemouth
Everson, H. P., London
Ewing, James L., Edinburgh
Farr, E. H., Uckfield
Fraser, Alexander, Paisley
Gadd, J. W., Exeter
Gibbs, R. D., Birmingham
Gibson, Horace, Brighton
Gibson, W. H., Brighton
Grierson, G. A., York
Groves, Thos. B., Poole
Guyer, R. Glode, London
Hardwick, G. H., Grantham
Hardwick, Stewart, Bournemouth
Harris, E. W., Merthyr Tydvil
Harris, Stephen, Droitwich
Hinds, James, Coventry
Hobbs, A. E., Bournemouth
Holmes, E. M., Sevenoaks
Holmes, Kate, Sevenoaks
Howard, D. Lloyd, London
Hughes, James, Swansea
Humphrey, J., London
Hutton, H., Leamington
Johnson, T., Wigan
Johnstone, C. A., Manchester
Jones, H. C., London
Jones, Wm., Bournemouth
Kemp, Harry, Manchester
Lake, J. Hinton, Exeter
Lawrence, Arthur F., Bournemouth
Love, A. E. B., Bournemouth
Lucas, E. W., London
Lucas, Mrs., London
MacEwan, Peter, London
Martindale, W., London
Masters, H. J., Bath
Masters, Mrs., Bath
Mathews, Henry, Oxford
Mathews, J. H., London
Moss, John, London
Naylor, W. A. H., London
Nightingale, J. C., London
Park, Charles, Plymouth
Parry, E. J., London
Partington, J. J., Bath
Pettinger, Elmer, London
Pidd, A. J., Manchester
Randall, W. J., Wareham
Ransom, F., Hitchin
Ransom, Mrs., Hitchin
Robinson, W. Prior, London
Roder, Dr. L., Vienna
Rowe, E. E. S., London
Rowe, F. A., London
Sangster, Arthur, London
Schacht, G. F., Bristol
Shepheard, Thomas, Chester
Shepherd, J. W., Settle
Silson, Miss, Bradford
Silson, Miss Jeannie, Bradford
Silson, Miss Sarah, Bradford
Silson, R. T., Bradford
Silson, R. W., Bradford
Smith, A., Wareham
Smith, John, Liverpool
Smith, J. T., Redcliffe
Smithson, John, Boston
Smithson, A., Brighton
Snaddell, M., London
Sogmond. Fred S., Wimborne
Spinney, F., Bournemouth
Spinney, W. F., Bournemouth
Stevens, P. A., London
Strother, C. J., Chiswick
Symes, Charles, Liverpool
Symes, F. G., Liverpool
Tame, Thomas, Boscombe
Taubman, R., London
Taylor, G. S., London
Toone, Arthur H., Exmouth

Toone, E. J., Exmouth
Toone, John A., Bournemouth
Toppin, J. Morris, Clifton
Townsend, Wm., Exeter
Umney, J. C., London
Umney, Mrs., London
Want, W. P., London
Wardleworth, Theo. H., Liverpool
Warren, W., London
Weston, S. T., London
Wheeldon, James, Manchester
Whigham, R. L., London
White, Edmund. Putney
Williams, J. H., Bournemouth
Williams, W. G., Conway
Wilson, H., Southampton
Wink, J. A., London
Wright, T. R., London

CONFERENCE CHATTER.

The luncheons on Tuesday and Wednesday were given in the Winter Garden at the Hotel Mont Dore, and were very good. The waiting was a bit slow, doubtless owing to the fact that this is not the season at Bournemouth, and none of the hotels have a complete staff of waiters.

What the ladies did when they left the meeting, after the President's address, is not generally known. Some of them had not discovered up to Wednesday what arrangements were made for them, but they said they were better pleased to be left alone. There was a deal to be seen in the town, on the parade, and in the shop-windows. The husbands and fathers began to find out that Bournemouth shops are splendid for emptying the purse.

Where Pharmacists had their Morning Swim at Bournemouth.

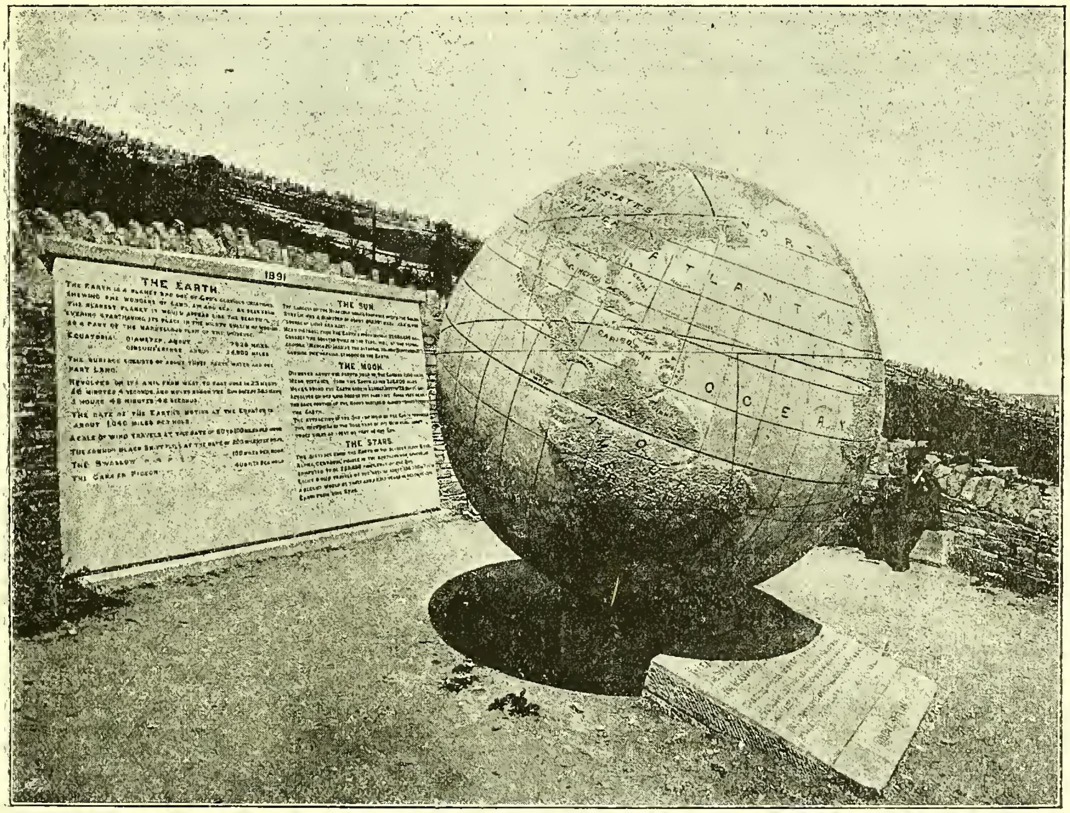
A strictly private and official banquet was given to "the President" in the Grand Hotel by the local chemists on Tuesday evening. It was very nice indeed. For those who were not at the dinner the Corporation had provided a special concert in the Winter Garden. It was "under the patronage of the members of the British Pharmaceutical Conference," and tickets were 6*d*. It was worth the money, for the Conference has not been so well advertised before. Mr. Dan Godfrey, jun., was the conductor, and his military band gave an excellent concert. Miss Florence Bethell sang charmingly. This was quite a popular event.

During the luncheon interval on Tuesday the members were photographed on the Hotel Lawn. It was a good idea to have the thing taken on that day, for the ladies looked their best, and pharmacists always take well after some mild dissipation the night before. Five whole-plates were exposed. In one of them a lady is all over the place, and in another a man tried the plan of bobbing up and down. The photographer tried the effect of one group with men's hats off, and another with hats on. The first was inspired by the thought that a series of exceptional phrenological developments would be caught; but the demand for "hats on" was sudden and imperative. Why?

Lord Elgin took us to Swanage on Tuesday afternoon, and the *Empress* brought us back. This is the nearest to the President's pharmaceutical peerage that can be attained. The outstanding features of the excursion were the tea, which was served on board and was most refreshing, and the stone globe. The latter is a big thing, 10 feet in diameter, and weighing 40 tons. The surface of the earth is given in rough relief, the principal divisions of land and water being graphic. There is a flat stone at the foot of the pedestal on which it rests, which states that on the same scale the sun would require a globe of about 1,200 feet in diameter, while the moon would take another of nearly 2 feet 8 inches. There were a few botanists in the party (as might be expected), and they were enthusiastic about the rare plants which they picked up. There was no particular reason for the enthusiasm, except that the rare things are as common as grass on the Isle of Purbeck; and those who came out to enjoy themselves sat upon the botanists. Westminster Abbey comes from this district, but the stone globe comes from Portland, which seems a queer arrangement.

It has been suggested that papers should not be read at the Conference. The members say that they can read them in The Chemist and Druggist when they get home. The matter has not yet been considered by the Conference Executive. A local genius is prepared, on the next meeting at Bournemouth, to arrange the matter so as to suit all parties. At breakfast every morning abstracts of the papers are to be phonographed into the ears of the male visitors, and those who feel moved to make remarks are to be isolated and sterilised of their ideas in White's single-jacketed steam steriliser, which is provided with an efficient water-trap, which, judging from the quantity of Scotch and Irish consumed at these meetings, is a most essential provision. Any who are not free from the linguistic taint after this treatment are to be spread out on Bird's spirit-recovery still. This has an appropriate cone-shaped hat—condenser, I should say—and it is reckoned that after a short time in this apparatus no discussion will be left in them, for one has been tested with a Jones' still-alarm, modified, as suggested by Alcock, to indicate when a low level is reached, and the electric-bell rang loudly. I asked the genius where THE CHEMIST AND DRUGGIST came in. He said that had not occurred to him, but last week it came in on a waggon. The man is much too flippant, I am sure.

Wednesday opened badly—a regular Scotch mist with the chill taken off—which was a blessing in more respects than one—viz., all the functions of the day were under cover. Towards the afternoon the weather brightened considerably.



THE GREAT GLOBE ON THE ISLE OF PURBECK.

THE CHEMIST AND DRUGGIST'S criticism of the Conference last week has not been appreciated. Bournemouth men felt it keenly; why, it is difficult to understand, for they have no concern with the policy then referred to. It is natural, however, that the Executive Committee, as I hear, should take it to heart, and, without controverting the *C. & D.* statements, they have inaugurated a sensible reform. On Wednesday morning ballot-papers, bearing the names of the next year's office-bearers, were distributed to all the members, and a more then formal ballot was taken for the first time in the history of the Conference. A good move. Of course, it is a painful thing for THE CHEMIST AND DRUGGIST to criticise the Conference adversely, for it is treated most courteously by the office-bearers, particularly the Hon. Secretaries, but we must look facts in the face now and then.

The wholesale-druggist element was once more strongly represented at the meetings; indeed, if we subtract from the debaters the names of those connected with the wholesale, the retailers form such a tiny handful that one wonders what the discussions would have been if they had depended upon the dispensing-counter men. It was notable, too, that the junior partners and laboratory directors were in force, and they had charming ladies with them.

There was a garden-party at the Hotel Mont Dore on Wednesday afternoon, and Mr. Dan Godfrey, jun.'s, select band supplied the music. It was voted a success, for the afternoon's work had been hard, and it was determined not to imperil the success of the evening concerts by another excursion. The weather was excellent, and gave the ladies the opportunity of displaying some beautiful costumes. It is astonishing the number of different dresses that were worn by some during the week; and if they were taken as a measure of the present condition of pharmacy, it is not at all in a bad way. Frock-coats and dress hats were the order of the afternoon for gentlemen.

Mr. Conroy directed the smoking-concert on Wednesday evening. He does the thing well. The concert was held in the Hotel Winter Garden, and simultaneously there was a drawing-room concert for ladies and non-smokers. The smaller winter garden between was the scene of several flirtations, &c. Mr. Carteighe opened the smoking-concert with "Father O'Flynn," wherein he demonstrated that he has command of the brogue when he likes. Mr. G. E. Bridge gave another specimen of his fine baritone voice, and a professional friend of his, Mr. Pierpoint, who dropped in, also obliged the company. There is no lack of musical talent in pharmacy, and the Chairman's only difficulty was to keep the concert within reasonable limits. Amongst those who sang were Messrs. F. H. Alcock (Birmingham), D. Lloyd Howard, J. C. Umney, and R. L. Whigham (London), and Gratt and Williams (Bournemouth).

Someone remarked during the meeting that only a small representation of the medical faculty attended the Conversazione, most of them being at the British Medical Association. If that is so, such a splendid place Bournemouth must be for pharmacy if all the doctors have practice. The fraction present consisted of Dr. and Mrs. B. Scott, Dr. and Mrs. Denton Johns, Dr. and Mrs. MacGillycuddy, Dr. Bacot, Dr. Bell, Dr. and Mrs. Saul, Dr. Muspratt, Dr. and Mrs. Nunn, Dr. Clift, Dr. and Mrs. Mahomed, Dr. and Mrs Lys, Dr. and Mrs. Dickie, Dr. and Mrs. Gardner, Dr. and Mrs Percy Duncan, Dr. Coles, Dr. and Mrs. Hyla Greves, Dr. Kinsey Morgan, Dr. Casse, Dr. and Mrs. Love, Dr. Cormack, Dr. Frost, Dr. Gregory White.

Photo by Debenham & Gould.

S.S. "LORD ELGIN."

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SWANAGE CHURCH.

Photo by Debenham & Gould.

TILLY WHIN CAVES, SWANAGE.

The local Executive Committee comprised :—Messrs. G. E. Bridge (Chairman), Stewart Hardwick (Secretary), F. E. Bilson (Treasurer), H. Amoore, J. H. T. Beale, W. B. Botham, F. Endle, G. Faraday, J. T. Hall, J. A. Haynes, A. E. Hobbs, W. Jones, A. F. Lawrence, S. B. Moyle, F. Rye, F. Spinney, G. Taylor, J. A. Tocne, J. Vincent, J. H. Williams, and E. Worth, of Bournemouth; S. P. Yates, A. J. Conroy, and J. H. Gordelier, Boscombe; A. G. Doble, G. F. Huntley, and F. S. Seymour, Wimborne; J. Green, Christchurch; A. Jarvis, Parkstone; F. T. Pomeroy, Poole; A. F. P. Randall, Wareham; W. J. Randall, Swanage; H. Rayson, Ringwood. We have pleasure in acknowledging the courteous attention which our representatives received from Mr. Hardwick. Seldom has a Local Secretary worked so unobtrusively, and created so kind thoughts in people's minds, as Mr. Hardwick did.

THURSDAY'S EXCURSION.

A coach-drive to the New Forest was the thing that was most spoken of all the time, and fine weather for Thursday was all that was prayed for. After breakfast, the company of about 200 started from the Sanatorium Road, going along Christchurch Road (page 191), by way of Boscombe and Pokesdown. The town of Christchurch was a centre of interest, for long ago it was a town called Twyneham, but the change in the name was made to perpetuate the founding of the Priory for secular canons by Edward the Confessor. The church is a splendid example of Norman architecture (page 193), and many of the party went into ecstacies over it. Other picturesque things were admired during the halt at the Cat and Fiddle. At Christchurch Barracks the company witnessed some exciting tent-pegging exercise by troops in the garrison. Then the drive was resumed, and soon the coaches reached the Forest, and a short time after passing Holmesley the luncheon-marquee and its contents, provided by the Hotel Mont Dore, came into view.

Lyndhurst was reached after a most enjoyable journey, and the members at once adjourned to lunch admirably served and fully enjoyed. After the usual loyal toasts Mr. Martin proposed "The Local Committee" in terms of full appreciation, to which Mr. Bridge responded, attributing the success of the Conference arrangements to the unity of all local chemists, and everything done had been a sincere source of pleasure. Messrs. Hardwick, Bilson, and Toone also responded in feeling terms. Mr. Bridge proposed "Success and Long Continuance of the Pharmaceutical Conference," which Dr. Symes supported, and Mr. Martindale acknowledged in terms hopeful for its future prosperity. Mr. Atkins very felicitously proposed the toast of "The Ladies," which evoked a most humorous response from Mr. Druce. Mr. Carteighe proposed "The ex-President of the Conference," which was received with acclamation, and then the homeward journey was resumed under most favourable conditions. The drive was through Boldre Wood, one of the most beautiful parts of the Forest, to Ringwood, where tea was provided, and the coaches were again occupied for the final stage to Bournemouth.

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Society of Chemical Industry.

On Wednesday, at 10.30 A.M., the annual meeting of this Society was held in the Chemical Lecture Theatre of the Yorkshire College, Leeds, Dr. T. E. Thorpe, F.R.S., Director of the Customs and Somerset House laboratories, President, in the chair, thus addressing an assemblage of technical chemists from the platform which he at one time occupied as a professor.

The Report of the Council

was first submitted. This showed the present membership to be 2,876, a slight falling-off, only 208 new members having been elected, as compared with 251 last year. Among the losses by death, the Council mentioned the names of Dr. C. R. Alder Wright, F.R.S.; Wm. Topley, F.R.S., the geologist; S. M. Burroughs, the pharmacist; and Eckley B. Coxe, one of the foremost of America's mining engineers. During the session 81 papers have appeared in the journal, as against 77 last year. The excess of revenue over expenditure amounted to 178*l.* 10*s.* 2*d.*, as against 574*l.* 17*s.* 9*d.* in 1893. The increase in the size of the journal is entirely responsible for this small balance, as the actual revenue showed an increase of nearly 100*l.* The compilation of the collective index from the beginning of the journal to the close of the current year, which is now in the hands of Mr. Renant, will entail an outlay of about 1,000*l.* No new Section has been formed during the year, but several of those already existing, notably that in New York, show great activity. A suggestion having been made last autumn that the supply of papers to the various Sections would be stimulated by the institution of premiums or prizes similar to those of the Institution of Civil Engineers and other societies, a committee was appointed, which suggested that it might be of advantage to make an occasional presentation of a medal in recognition of conspicuous services rendered to technological chemistry. This suggestion being approved by the Council, a design has been prepared under the direction of the President and Sir John Evans.

Mr. Rider Cook submitted his annual statement. This showed a revenue of 3,304*l.* from subscriptions, 315*l.* from composition-fees, 196*l.* from investments, and 860*l* from the journal. The publication of the journal cost 3,048*l.*, and the other items of expenditure of most importance, apart from salaries, were the sectional expenses, viz.:—Glasgow, 56*l.* 10*s.* 1*d.*; Liverpool, 33*l.* 16*s.* 11*d.*; London, 84*l.* 6*s.* 9*d.*; Manchester, 53*l.* 16*s.*; Newcastle, 10*l.* 5*s.*; Nottingham, 4*l.* 18*s.* 6*d*; and Yorkshire, 21*l.* 12*s.* 7*d.*

Dr. Thorpe was received with hearty applause when he rose to deliver his

Presidential Address.

In the course of it he referred to various technical subjects, the first being that of gas-enrichment. Speaking of water-gas, he said a serious drawback to its employment in the carburetted state was that it contained 30 per cent. of carbon monoxide; a similar objection applies to acetylene. This substance could be made to burn, under proper conditions, so as to produce a flame of extraordinary luminiferous value and character. It remained to be seen what practical application could be made of this fact. Turning to glycerine and wool-fat, the President said large quantities of glycerine were now made from waste soap lyes, and since 1890 chemically pure glycerine had been prepared from this source in Leeds. We were now not only independent of the Continental supply of glycerine, a matter of some concern to us so long as such explosives as cordite had to be relied on for national defence, but we are able to teach our friends the enemy how to make their dynamite glycerine, and to supply them, if necessary, with the material for the purpose. (Laughter and applause.) In this connection it might be noted that there was one other product of the wool-scourer which had for some time attracted the attention of technologists, but which as yet had not been utilised to any satisfactory extent —namely, wool-fat. Considering the enormous quantities of this material which were now wasted in this district alone, it was to be hoped that the problem of extracting and utilising it more profitably would soon be solved. (Hear, hear.)

Reference was next made to the manufacture of edible fats, with special reference to margarine, the President stating that the amount of margarine imported in 1893 was more than half that of butter, and in 1895 it was less than one-third. It had been alleged that large quantities of margarine passed through the Customs under a false declaration at the port of entry. He was in a position to say that such was not the case. (Hear, hear.) The false declaration, if any, was to the consumer, and the remedy for this rested with the local authority under the powers conferred by the Adulteration of Food and Drugs Act. After dealing with the chemistry of textiles, Dr. Thorpe proceeded to speak of photography. During the past year, he said, the main advances had been from the optical and mechanical sides. Considerable improvements had been made in the manufacture of the most rapid dry-plates, and both in certainty of action and in keeping qualities they were but little behind the slower plates. Advance had also been made in the preparation of so-called iso-chromatic or colour-sensitive plates. The firm of Lumiere Brothers, of Lyons, had placed on the market plates which were far in advance of anything hitherto commercially obtainable. The use of such plates had given a considerable impetus to the three-colour processes of photography in natural colours. Important advances had also been made in printing-out papers, and the English papers, especially, left little to be desired, both as to quality and cost. Among the more noteworthy of recent additions to our stock of developers were the aromatic amido compounds and phenol deratives, as amidol, metol, glycin, and para-amidophenol. Attempts to connect the action of organic developing agents with chemical constitution had not been wholly successful, although certain broad generalisations were possible. It appeared that for an aromatic organic substance to act as a developer it must contain at least two hydroxyl or two amidogen groups, or one of each in its molecule. With regard to the so-called photography in natural colours, the most satisfactory results from a practical point of view were obtained by what was known as the three-colour process. There was doubtless great room for development, but the researches of Vögel, Eder, Valenta, Hübl, and others had done much to show the way, and it might be predicted that before another year came round a notable advance would have been witnessed. He concluded his address by pointing out some of the directions in which it is necessary for English technologists and manufacturers to develop their energies if they are to cope with the growing competition of continental countries.

On the motion of Mr. Tyrer, seconded by Mr. C. T. Tetley, the President was thanked for his address.

The Election of Office-bearers

was then proceeded with, and resulted, as arranged, in the appointment of Mr. Thomas Tyrer, F.I.C., F.C.S., as President. The other principal office-bearers elected were Mr. T. Fairley, Mr. Boverton Redwood, and Sir H. E. Roscoe, F.R.S., as Vice-Presidents.

Next Year's Meeting.

The London Section of the Society extended, through Mr. Tyrer, an invitation to hold the next annual meeting in London, which was accepted.

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CONFERENCE COMMUNICATIONS.

There is one plank in the Conference platform which still remains well supported. Whether membership waxes or wanes there are always a dozen or so hard workers prepared to sustain its cardinal principle—the promotion of pharmaceutical research. Bournemouth has been no exception to the rule, and if papers have been fewer they have seldom been better or more appropriate to the occasion. Of course old frequenters of these annual meetings tell us that much of the glory has departed. Certain of the founders are dead, others do not leave their armchairs; some are able to work, but are not willing, and there have come in their place flippant young men who strive to upset systems which we regard as solid as the earth itself, and experimenters who were not born when the Conference first saw the light at Newcastle-on-Tyne. Can we expect wisdom or prosperity from such? It is sad, truly; but the saddest thing of all to such pessimistic persons must be that the Conference is a living reality, its meetings as enjoyable as ever they were, and the Conferers as determined to keep the ball rolling for their children to kick as their fathers were before them.

We like the papers which have been read this week. There is not a single classic amongst them—none which a humble chemist and druggist could not appreciate and discuss—and they were mostly of practical utility. It would not do to say that all were good—or, rather, of equal excellence—but the opinion of the first day's lot was that the Conference standard had been maintained. We print most of the papers in full. At their leisure, or in future years, they may be read by most of our subscribers. To aid in a quick grasp of the subjects and the essential points communicated, we now give a concise statement of their contents and the gist of the discussions upon them.

Sandal-wood Oil. As a Conference worker through aid of a research grant, Mr. E. J. Parry, B.Sc., had the honour of reading the first paper. The object of his research was to determine more precise methods for detecting adulteration in sandalwood oil, and this could only result from getting to know something of its chemical composition. Following up Chapoteaut's discovery of santalol in the oil, he determined that this constituent could be readily isolated by acetylation with glacial acetic acid, 83 to 90 per cent. being the proportion of santalol found in oils of undoubted authenticity. The iodine-absorption of the acetylated oils was determined, and a certain value attaches to it, but this is not so high as the potash-saponification figures, which are practically 20 per cent. for acetylated sandal oil and about 2 per cent. for acetylated cedarwood oil, thus providing, with the other factors, a sure means of detecting adulteration. The discussion did not add anything material to what Mr. Parry said. It was generally conceded that it is exceedingly difficult to detect even 10 per cent. of cedarwood oil in mixture, and that the sulphuric-acid test is a failure.

Cripps on Ipecac. Mr. R. A. Cripps has, under a Conference grant, been working on the chemistry of ipecacuanha, and although the work has been proceeding slowly, and others have been experimenting on the same lines, Mr. Cripps has managed to bring out certain interesting facts. The first part of his communication was a record of a proximate analysis of ipecac. (what kind was not stated), but ether, chloroform, alcohol, and other solvents did not extract anything strikingly novel. Emetine was, of course, obtained, and two distinct alkaloids, named simply "A" and "E," neither of which was cephaeline. The results, in fact, are not complete. The second part of the paper was a criticism of published statements. Mr. Cripps is unable to confirm Arndt's observation that ipecac. contains a volatile alkaloid—choline. He has compared several assay processes, Keller's and Lyons', and in regard to the extraction of the root in making the wine agrees with others that a weaker acetic menstruum than the official one gives the best results. The members who discussed the paper confined their attention to the latter part of it. They agreed that Keller's and Lyons' assay methods are bad, that Ransom's is the best, and there was also practical unanimity in regard to a weaker acetic menstruum being the most desirable. Although Mr. Cripps had been unable to find a volatile alkaloid in ipecac., Mr. J. C. Umney said there is something volatile in it which is alkaline. Dr. B. H. Paul is investigating the matter at present. Mr. Bird capped that by saying that the volatile substance is triethylamine. In the face of such diverse opinions, we may rest thankful that ipecac. remains a reliable emetic; which no one who has swallowed $\frac{1}{2}$ dr. of the powder will question.

Commercial Alkaloidal Tinctures. Messrs. Farr and Wright bring their work on B.P. alkaloidal tinctures to a fitting conclusion by a report on 154 commercial specimens of the same. It is difficult to summarise their conclusions in a longer sentence than one. The tinctures are wretchedly bad. The more common tinctures are the worst. Cinchona, for example, was found to vary in strength from 0·22 to 1·18 per cent. of mixed alkaloids; laudanum from 0·303 to 1·12, and so on with a few others. The curious point about the matter is that the extractive was found to be equally variable, and, taken with the discrepancy in specific gravities, the authors made out an exceedingly strong case for official tests for these tinctures if for no others. But all pharmacists who have that respect for their calling which the President inculcated in his address will not wait for the B.P. to move. Careful examination of tinctures before stocking them is imperative. The discussion on the paper was freshened up by a contribution from a local medical man, Dr. Mahomed, who, though young, proved himself to have a high respect for the old-fashioned notion that the whole drug, or a preparation of it, is more reliable than any alkaloid or so called active principle. "Why should you standardise according to the alkaloid?" was, in essence, Dr. Mahomed's criticism, and pharmaceutical speakers replied to that by saying that if you have a constant proportion of that, everything else is likely to be in proper proportion. All the same, Messrs. Farr and Wright's tables show to the contrary. Still, the claim was substantiated that standardisation of alkaloidal preparations is a necessary sequence to standardisation of the drugs. This paper brought the first morning's work to an end. On resuming at 2.15 there was some difficulty in finding a quorum, but at last proceedings were recommenced with a paper by Messrs. Parry and Sage on cod-liver oil constants.

Cod-liver Oil. This dealt with specific gravity, saponification, iodine-absorption, and free acids, with their melting-points, iodine-absorption, and mean molecular weights. There was no comment upon this paper, although its value is at once discounted by the absence of any history of the specimens worked on, or even evidence that they were cod-liver oil; and in view of the fact that livers of other fishes are used by some makers along with the livers of the cod, the resulting oils being markedly different in composition, this circumstance is unfortunate.

Umney on Pine Oils. Mr. J. C. Umney gave a further contribution to the rapidly increasing English literature on essential oils. We have frequently pointed out that this department of research has been neglected by English workers during the past decade or more, continental work being more thorough and profitable. Mr. Umney's paper on the "Oil of Scotch fir and other pine oils" could not have been more appropriate to the locality unless his specimens had actually been drawn from Bournemouth pines. As a matter of fact, his *Pinus sylvestris* grows at Sevenoaks, and the oil distilled from the leaves was examined both in respect to its physical characters and chemical constitution. In regard to the former it is notable that he finds the oil to be totally different in taste and odour from commercial oils. This oil has been regarded as a dextrorotatory oil, but Mr. Umney found it the opposite (sp. rot. – 19°). He also observed that only 8 per cent. of the oil distilled below 167° C. although as much as 60 to 70 per cent. of some commercial oils is distilled at that temperature, this being due to their adulteration with turpentine. It is pinene which distils below 167° C. The other characteristic terpenes distil at higher temperatures. The more odorous constituents of the oil are certain esters, probably borneol acetate, but the author is not sure of this, and found evidence of other esters, iso-valerianic or valerianic acid being found as well as acetic. Mr. Umney also reported on oil of spruce, stating its specific gravity and rotation—it contains much borneol acetate; on "genuine pine-needle oil" (oil of the young cones of *Abies excelsa*, which is really passed off in commerce as oil of *Pinus sylvestris*), which is characterised by containing lævolimonene and 13 per cent. borneol ester; on oil of *Picea vulgaris*; and oil of *Pinus Pumilio*, the latter containing no borneol, in which it is distinguished from the former. We commend a careful perusal of our report of Mr. Umney's paper, as these oils are so closely allied that they are generally taken to be much alike, yet the chemical examination shows many points of difference. The most important point of the paper was the observation that true oil of *Pinus sylvestris* is not a commercial article at all; much of what is sold as such is the oil of *Abies excelsa* cones and the rest is mixtures of turpentine, &c. The paper brought out one of the best discussions of the Conference, and the author was freely complimented upon his ability as an investigator in this department of chemistry. The chief fact discussed was the difference between true oil of *Pinus sylvestris* and the commercial oil. Mr. Naylor brought out the fact that Mr. Bullock had looked into this matter many years ago with the result that he got in Germany an oil which he saw distilled, and this was brought under the notice of Sir Morell Mackenzie who prescribed it. Mr. Jones, who was with Bullock & Reynolds, confirmed the statement that the oil of commerce is quite different from what was used in the old house, whereupon there was a pretty general discussion in regard to the adulteration of essential oils, how to get them pure, and how to keep them so; about all of which useful information came out. Moreover, although the policy of paying a good price for a thing was freely advocated, the speakers did not agree, and that was all, but that tests are absolutely necessary.

White on Sterilised Dressings.

Mr. Edmund White, who is successor to Sydney Plowman, at St. Thomas's Hospital, described his experience of a steriliser which he devised a year ago, for rendering surgical dressings aseptic. The apparatus is simply a steamer, an hour in it sufficing to kill any germs which may be in the dressings, when they are taken out and used by the surgeons. Our report contains a figure and description of the vessel. Mr. White explained that he had used glass jars for holding the dressings, but they break (many of them) when taken out of the steriliser; therefore he has adopted tinned-copper boxes in their place. Mr. Collier described what is used in Guy's Hospital, where the containers are holland bags lined with gamgee tissue. It appeared, in the course of the discussion, that those who use aseptic dressings in preference to the antiseptic are young surgeons who have completed their education on the Continent, where they have been infected with the—well, "fad" might express the feeling; but aseptism is ideal cleanness, and that is a virtue which ranks second in the scale of ethics.

A Still Alarm.

Mr. John Moss, for his friends Messrs. N. C. Jones and P. W. Jones, concluded the scientific work of the day by a verbal description of an electrical indicator for telling when the contents of a still-receiver have reached a certain level. As we cannot abstract an illustration, we must ask those interested to turn to page 203, where they will find the alarm sketched. It was not Mr. Moss's fault that the alarm was not a success in Bournemouth; but a tumbler is not a good receiver, and Mr. Naylor cannot, by the wildest stretch of the imagination, be considered a rigid support, which circumstances were taken to be the main reasons for the alarm not going off so promptly as it does in Galen Works, where it has not failed during two years to disturb the stillness by its persistent tinkling.

The proceedings were resumed on Wednesday morning in dull weather.

Elborne on The Metric System

The Conference is not badly off when it has a man in its ranks who can get up and speak to the extent of about three of our pages on the B.P. *versus* metric weights and measures. To do that, and be at the same time amusing, is a feat worthy of a Chancellor of the Exchequer who can make a House laugh in face of a deficit Budget. Mr. Elborne was amusing. Everybody did not think so, we admit, for the humour was frequently as subtle as the logic was thin, and laughing came late. It was there all the same, and helped to make pleasant reading of a hackneyed subject. It may be questioned if there was need for saying much of what Mr. Elborne said. Starting with the proposal that the metric system should be introduced into the B.P., the author proceeded to argue that pharmacy is not science, that permission will be required for the use of the system, and that it is too unfamiliar to be put into the B.P. alone—thus showing that he is rather in advance of actual discussion, since it is not seriously proposed that our old system of weights and measures should be excluded from the Pharmacopœia. The recent hot-headed recommendations of the Parliamentary Committee are condemned by the warmest advocates of the metric system. Mr. Elborne proceeded to point out the superiority of our own system, in comparison with the metric system, and there was much good sense in what he said. It is true that the grain is to us a beautiful conception when we think of opium, and a 5-gr. purgative pill is an entity which troubleth not the mind, whereas 65 millegrams or 0 325 gramme is meaningless to us. We must not forget, of course, that there are people in the world who may think us untutored; persons to whom the grain is an unknown quantity, and who cure diseases with milligrams, &c., as well as we do with our good old system. Mr. Elborne gave no thought to that, but by a relation of the history of the metric system (which celebrates its centenary this year) and some antiquated quotations cast ridicule upon the utility of the system. Where he scored was in saying that our own system suits us very well indeed, in opposing exclusive adoption of the metric system, and in pointing out that our rule of measuring liquids must always isolate us from continental pharmaceutical practice in this matter. Mr. Carteighe started the discussion reluctantly, and at once struck the proper keynote—viz., it may be a nice thing to give us a laugh at the expense of the metric system, but the fact remains that we are too insular in regard to the matter. The metric system is coming into universal use, and it is bad for us to be precluded by Act of Parliament from having the weights and measures in use. Mr. Naylor and Dr. Symes practically supported Mr. Carteighe; and Mr. J. C. Umney, speaking as a wholesaler, said that the

London County Council had authorised the use of the weights and measures for export trade. He also stated emphatically that the system is the better one for manufacturing purposes. And so the discussion continued, it and the paper occupying more time than any other before the Conference. One feels inclined to protest against this absorption of the enemy; but it is impossible to stop these popular discussions —the fact that the statements are hackneyed is the thing that uses up the time. The discussion seemed to give general pleasure.

Elborne on Volumetric Solutions. Mr. Elborne's second paper on B.P. volumetric solutions was scarcely worthy of him, because a postcard to Professor Attfield would have served the purpose equally well. He started by saying that the official solutions do not conform with what science has accepted as "standard" solutions—viz., hydrogen equivalence as unity. But the context showed that only potassium bichromate sins in this respect. Mr. Elborne repeated the suggestion for a standard permanganate solution to be used for titrating iron, and he advocated calling the solutions normal or decinormal, as the case may be.

Symes on the B.P. Dr. Charles Symes, of Liverpool, found something fresh to say in regard to Phamacopœia revision, this being suggestions in the direction of utilising colonial contributions on pharmacopœial subjects. Dr. Symes has been struck with the practical character of colonial suggestions; the men who make them know what they are about, what they want, and it will be for the benefit of the British Empire to give some heed to what they say. He thought, therefore, that although "concentrations are an abomination in English pharmacy" (which utterance is not necessarily an axiom), it will be wise to have more of them in the Pharmacopœia for facility of transit. Thus, there are many native drugs which are good; pick out the best of them, and put them at the end of the B.P.; but he did not say how. He also thought a therpeutical table would be good, and a table of solubilities. His suggestions were not destitute of local colouring, both South African and Brazilian business affecting the communication. What Brazil has to do with our Pharmacopœia did not seem quite clear from the doctor's remarks, for it is Portuguese the people particularly favour out there.

These matters did not, however, trouble the meeting, who discussed once more the metric system, posology, and solubilities. The feature of the discussion was the reception given by the meeting to Dr. Symes' straight reference to the position of pharmacists in regard to pharmacopœia division. Delicate the subject is, nevertheless Dr. Symes spoke out emphatically, and Mr. E. M. Holmes backed him, while the audience, with applause as hearty as is given when votes of thanks are rendered, showed that the resurrection of this topic accords with the views of pharmacists.

Bird on Spirit Recovery. The recovery of spirit from tincture-marcs was the first subject upon which Mr. F. C. J. Bird addressed the Conference. For this purpose Mr. Bird uses a squat still similar in principle of Dicker's, described in our summer number, and the results which the author has obtained are highly satisfactory. The still is a water-bath, in which the pan is very shallow, and over this the marc is spread. A heat of 80° to 140° Fahr. suffices to distil the residual spirit from 4 pints of tr. rhei co. in a very short time. The author exhibited the apparatus, and would have shown it in operation had there been a gas-furnace in the hall, and in regard to that the President said those who want to demonstrate anything at a Conference should give the local secretary notice beforehand—a hint which should be kept in mind. Mr. Bird's still embodies the principle of Dicker's, and may, therefore, not be made for trade purposes without the patentee's permission, but the meeting recognised the communication as one of practical utility, and it gave a few speakers the opportunity of saying that it is not big enough for large manufacturers, whereupon ethical retailers responded that one of the objects of the Conference is to encourage retailers to make their own preparations. It was not said exactly in those words, but that is the essence of the discussion.

Syrup. Hypophos. Comp. Mr. W. A. H. Naylor's paper on syr. hypophos. co. B.P.C., dealt really with the peculiar odour which the syrup sometimes has, and which has been attributed to sulphuretted hydrogen arising from the reduction of sulphate by hypophosphorous acid. Mr. Naylor tried to get the alleged decomposition direct by acting upon soluble sulphates with the acid, but failed. He then examined a large number of commercial hypophosphites and found phosphites present in every one, and phosphates, sulphates, and sulphites in some, and if the syrup is made from pure hypophosphites it does not become malodorous. It is possible that the odour is due to phosphoretted hydrogen, which resembles H_2S closely in odour; but Mr. Naylor does not reject the H_2S theory altogether, his experience being that if a hypophosphite free from sulphite is used there is no trouble. The brightness of the syrup is ensured by adding 80 grs. of potassium citrate to each pint. Mr. Umney said ammonium citrate is better, and he corroborated Mr. Naylor in regard to the presence of phosphite in calcium hypophosphite, an impurity which the manufacturers say they cannot get rid of. The earlier work of Mr. Adam Gibson on this subject was acknowledged, but the discussion added little to what Mr. Naylor had said.

Braithwaite on Tolu Balsam. Tolu balsam seems to be as liable to adulteration as the more odorous balsam which comes from Peru. Mr. J. O. Braithwaite finds that genuine tolu balsam yields about 30 per cent., or less, of crystalline matter when treated with warm carbon bisulphide; but there is some in the market which yields between 60 and 80 per cent. to the bisulphide, and the residue is resinous. It seems that copaiba resin may find its way into the balsam; but, whatever the adulterant may be, Mr. Braithwaite's carbon bi-sulphide test is one which deserves to be made official, particularly on account of the apparent rarity of genuine or good quality tolu balsam. The note is an important one, as several speakers testified. Mr. Holmes called attention to the microscopic test. This is simply to put a thin layer of the melted balsam upon a slide, and examine with a low-power lens. It should be full of crystals. No reference was made to the fact that spent balsam is employed as an adulterant, and it would be interesting to know if Mr. Braithwaite's test detects it in any other manner than the non-crystalline appearance of the bi-sulphide residue.

Greenish on Ipecacuanha. Professor H. G. Greenish insists upon a microscopic examination of all powdered ipecacuanha put into stock. Judging from thirty samples which he has examined less than a quarter of them were good, and 37 per cent. of them were powderered Cartagena root. The rest were medium and bad Brazilian. Most of this objectionable stuff is derived from the root called "stemmy" in Mincing Lane. It is evident from Professor Greenish's report that the protest made by the wholesale druggists last year has done little good, and it is obvious that if a pure powdered root is to be obtained pharmacists must be prepared to pay the price for picking and rejecting the stem which invariably accompanies the true root. The fact is, as stated by Mr. J. C. Umney, that ipecacuanha powder prepared from such selected root is obtainable, and the proportion of alkaloids which it contains is as five to three in powdered unpicked root. Mr. Holmes and the president emphasised the importance of histological methods for this purpose, and urged the necessity of pharmacists doing such work. But we fear Mr. Holmes discounted the possibility of such methods becoming practical, everyday operations, by enlarging upon the time and trouble which Professor Greenish must have had in doing the work for the paper. If that is the case with a professor of histology what would it be with a man who has to make his bread-and-butter at the dispensing counter?

Acetic Ext. of Ipecac.

Mr. Bird followed with a paper on the acetic extract of ipecacuanha, which is used in making vin. ipecac. More than a third of the alkaloids are destroyed in the drying, and, although he acknowledges as best Umney and Braithwaite's suggestion to use liquid extract of ipecac. in making the wine, he tried to get a dry extract with less loss. In this he succeeded by extracting the root with rectified spirit, then with acetic acid, and finally with a dilute acetic acid.* He thereby reduced the loss of alkaloids to 8 per cent., but the meeting seemed to be of opinion that the dry-extract plan should be avoided.

Tincture of Lobelia.

Mr. J. F. Liverseege communicated a paper in which he pointed out that it is impossible to reduce lobelia to No. 10 powder with mortar and pestle; and, as the B.P. requires it so in making the tincture, he tried how the tincture of the stalks compared with a tincture of the fine sifted leaf. There was so much difference that he properly concluded the B.P. direction to be too stringent.

Davis on Glycerine Tr. Cinchona.

The last paper of the day brought the pharmaceutical proceedings to an end in something perilously near a fiasco. Mr. Frederick Davis in a brief note showed that the addition of 10 per cent. of glycerine to a 70-per-cent. alcoholic menstruum gave a tincture of cinchona containing a slightly higher percentage of alkaloids. Two points deserve notice in connection with Mr. Davis's results; first, that Mr. F. H. Alcock, in a paper published in THE CHEMIST AND DRUGGIST, 1883, p. 162, conclusively showed that a menstruum of glycerine 1 and water 4 practically exhausts cinchona; second, most of Mr. Davis's tinctures contained more alkaloids than were in the barks employed. A few examples of the discrepancies between the figures for alkaloids in bark and in tincture will show the correctness of our criticism:—I. bark 5·3, tr. = 5·85; III. bark 6·2, tr = 6·45; V. bark 5·4, tr. = 5·75; VI. bark 5·2, tr. = 6·0; IX. bark 5·8, tr. = 6·05; XII. bark 4·8, tr. = 4·75. As the glycerine tinctures contained a higher percentage of alkaloids than these, we are puzzled to know where the alkaloid came from. We may also point out that Mr. Davis's average percentage of alkaloids in the B.P. tincture is 0·24 per cent. higher (1·14) than Farr and Wright's, and that the amounts of "extractive" in his glycerine tinctures are lower than the extractive *plus* glycerine, which ought to have been in the residue. Mr. Moss hinted at the alkaloidal discrepancies, and some who apparently had seen the paper before, applauded his remarks.

The meeting got through the whole seventeen papers comfortably, and there was no haste in regard to any of them. It will be seen from our time record that the distribution of interest was sporadic, but the fluctuating attendance and the mood of the men may account for that. We have seen smaller audiences in larger towns, so Bournemouth may take credit for giving the Conference more than a delightful country.

PHARMACY ALL WRONG.

We have looked forward with a special interest to Mr. Martin's presidential address to the British Pharmaceutical Conference this year. The wild attack on pharmacy as a trade which formed the staple of this gentleman's address last year, sincere enough, no doubt, at the time it was penned, appeared so crude and illogical that it hardly seemed possible for the author to hold such opinions, unmodified, for a whole twelvemonth, and we should not have been surprised if this year the President had offered something novel and spicy in the way of recantation, or, at least, of explanation. He told us last year, in all seriousness, "that pharmacy, as well as medicine, conducted as a trade, and in the spirit of a commercial venture, ought to fail." This was the burden of much wailing over the unsatisfactory condition of pharmacy and the shortcomings of pharmacists it was the utterance of a man who had to all appearance conducted pharmacy more or less in the spirit of a commercial venture, and it was addressed to hearers and readers who were cultivating and encouraging to the best of their powers whatever commercial spirit might be in them.

But nobody felt any compunction; we doubt if anybody was in the least degree influenced. Presidential addresses are regarded with much the same amiable tolerance which the schoolboy extends to his grammar-book. He does not dream of disputing any of Mr. Lindley Murray's positions, and he gives him a certain amount of perfunctory attention. But he has no idea of limiting the freedom of his own forms of expression by the rules Mr. Murray has laid down, the moment he gets out of the four walls of the schoolroom. Whether, in the particular case before us, the schoolmaster himself has obeyed his own precepts during the year we have no means of knowing; but certainly we have met no one else who has.

We are bound to admit, however, that in sentiment, if not in practice, Mr. Martin has, in this second address, vindicated his consistency. It may be that in order to credit him on this score we must debit his sagacity account; but that is an affair of his own private ledger. He still sees in its association with trade—"the whirlwind of modern trade,' as he picturesquely describes the sale of soaps and feeding-bottles and proprietary pills—a grave danger to "true pharmacy"; he feels deeply the responsibility of what he is compelled to say, and it is the conviction of his life "that in order to benefit pharmacy we must approach it from the side of education, and raise it to the rank and position of a profession, and not from the side of trade"

We should be among the first to agree with Mr. Martin if he had expressed his views with no more exaggeration than is allowable to a gentleman who for the moment represents the scientific side of pharmacy. That the chief hope of our future depends on the cultivation of the professional—that is to say, the personal—qualification of pharmacists would be admitted by most reflective men; but we are far from believing that there will ever be a living for pharmacists as professional men exclusively, or that it is desirable there should be. Still less does it seem necessary that pharmacists should turn their backs on trade, or sniff at it in the superior manner which the President of the Pharmaceutical Conference affects. We are glad enough to get the electric light, but we have not discarded gas or candles. According to Mr. Martin our pressing need at present is better education and a great deal more of it, and, like many other good and earnest men, he wants to enforce his views by means of an Act of Parliament. He wants "powers to make true education a reality in our midst." He wants "schools of pharmacy equipped in every detail," throughout England and Scotland.

He does not need an Act of Parliament for these objects. What he needs is the men who want such education, and the chance of making profitable use of it when they have got it. He would require an Act of Parliament, it is true, to enforce the curriculum which he thinks so necessary, but on his own showing it would be at least a generation before that curriculum could produce the results he hopes for from it. He asks also for the right to bestow the title of "Fellow of the Pharmaceutical Society" on persons who may pass a special examination. If the ills of pharmacy can be relieved by such a very weak pill as this, there is nothing very unsatisfactory in our condition.

The Act of 1868, we are told, was a complete failure in the direction of securing properly trained and educated men. That assertion, we venture to say, is absurd, even though it be supported by "eighty pages of the *Year-book*" No Act of Parliament, not even one drafted by the President of the Pharmaceutical Conference, would give men a taste, a passion for science, if they had not possessed such previously; but under the Act of 1868 thousands of men have been trained for special duties, have been examined by competent authorities, and have been declared fit to perform those duties. It is an unjustifiable *petitio principii* to assume that none of these thousands have acquired any sound information in consequence of the legal requirements to which they have been subject.

What Mr. Martin seems to disregard is the impotence of Acts of Parliament in making lovers of learning. Such men, more than any others, are born, not made. He observes this impotence when he studies the Act of 1868, but he fancies one in 1896 could be framed which would have a real moral effect.

Business Changes.

MR. MORGAN D. EVANS, late assistant to Mr. N. M. Grose, Temple Street, Swansea, has purchased the business from Mr. Thomas Richards at 140 Bute Street, Treherbert, Glamorganshire.

MR NEWTON SPYER, formerly manager of Messrs. Savory & Moore's business at Lancaster Gate, has succeeded to the business of the late Mr. W. Plaister, at 13 Gledhow Terrace, South Kensington.

MR. MARTIN JOHNSON, the present proprietor of the business of C. Row & Son, of Devonport, has removed from 97 Fore Street, Devonport, to 104 in that street—not to 107, as previously stated in this column.

OUR recent statement that the Sussex Drug Company had opened a new branch at Hawkhurst was incorrect. The mistake arose from the circumstance that they had transferred their agency there to a new man. They have about 200 agents in various towns and villages throughout Sussex.

THE business of Mr. James Lees, of 217 High Street, Watford, has not been disposed of to Messrs. Howling & Sargeant, as stated last week. Mr. Sargeant is in treaty with Mr. Lees for the purchase of the same. In any case Mr. Lees continues his business at 76 St. Albans Road as before.

MESSRS WALLER & RILEY (LIMITED), chemists and druggists, Bradshawgate, Bolton, have lately completed and opened new and very commodious premises at that address. The shop has been entirely refitted and is lighted by electricity. The dispensing department and laboratory are on the first floor. The two directors of the company are Messrs. Wm. Waller and Wm McIntyre. They have a staff of twenty, including five qualified chemists.

MIXED THE TITLE.—Barber (insinuatingly): "Your hair is getting very thin, sir" Grimshaw: "Yes; I treated it for two weeks with Allen's Anti-Fat, under the impression it was Mrs. Allen's Hair-Restorer."—*Fame.*

Marriages.

BUTLER—HEATHERILL.—On July 25, at St. John the Baptist Church, Clarendon Park, by the Rev. C. P. Eden, M.A., Vicar of Knighton, Edwyn Henry Butler, jun., of the firm of E. H. Butler & Son, chemists, New Haymarket, Leicester, to Agnes Crawford, youngest daughter of James Heatherill, Gladwynne, Stoneygate, Leicester, and Glasgow.

FRASER—DRUMMOND.—At Graham's Road United Presbyterian Church, Grahamston, on July 22, by the Rev. Thomas Taylor, assisted by the Rev. Archibald Bell Dean, Free Church, Edinburgh, Alexander Fraser, chemist, Edinburgh, to Jessie, eldest daughter of Mr. Wm. Drummond, 6 Arnot Hill Gardens, Falkirk.

Deaths.

ALLEN.—On July 25 at Sarsfield Quay, Dublin, William Popham Wheeler Allen, son of William Popham Allen, L.P.S.I., proprietor of the Medical Hall.

CREASER.—On July 21, very suddenly, from heart-disease, the wife of Mr. M. Creaser, chemist and druggist, Aldborough.

CUMBER.—Mr. Henry Cumber, jun., of La Rocquette, Guernsey, died on July 25, after a prolonged illness. Deceased was only in his 39th year, and had been in business as a chemist at St. Peter Port for some years past.

FISHER.—Mr. Francis Dixon Fisher, J.P., pharmaceutical chemist, of Market Place, Grantham, died on July 25 of internal hæmorrhage and peritonitis. Deceased was only 55 years old, but had been in failing health for some time. In his time he was an active public man, was for many years a member of the Town Council, and during 1878–79 filled the civic chair. He was made a J.P. of the borough in 1881.

FORBES.—On July 23, from a fall downstairs, Mr. James Wallwork Forbes, chemist, of 65 Newport Street, Bolton.

MILLER.—On June 29, at Graaff Reinet, Cape Colony, Elizabeth Ann, the beloved wife of C. B. Miller, pharmaceuticle chemist. Aged 34 years.

RIDLEY.—On July 23, Mr. Herbert Ridley, eldest son of Mr. Horace Ridley, chemist and druggist, Princes Risborough.

ROQUES.—Mr. Jean Jacques Adolphe Roques, head of the firm of Adolphe Roques, chemical-manufacturers and camphor-sublimers, Paris, died on July 22, at the age of 63.

TOMES.—Sir John Tomes, F.R.S., F.R.C.S., and L.D.S. Eng., died at Caterham on July 29. He was by far the most prominent worker in promoting the recognition of dental surgery as an independent profession in this country. He was born at Weston-on-Avon, Gloucestershire, in 1815, and began practice in 1840. He published his "Dental Physiology and Surgery" in 1848, and his "System of Dental Surgery" in 1859, which still remains a text-book on the subject. He was Fellow of the Royal Society, Fellow and Licentiate in Dental Surgery of the College of Surgeons, consulting dentist to the Middlesex Hospital and Dental Hospital of London, and a member of several scientific and professional societies.

TULLOCH.—On July 24, at his residence, 42 Cornwall Road, Westbourne Park, London, from typhoid fever, Mr. Hughes W. Tulloch. Aged 52. Mr. Tulloch had been during the past ten years a director and the chairman of Jeyes' Sanitary Fluids Company, and the present prosperous condition of the company is largely due to the efforts of Mr. Tulloch and of his co-director, Mr. Tom Brown, of Dartford.

WILSON.—At 103 College Road, on July 25, James Henry Wilson, for thirty-two years the faithful and devoted assistant of Francis Bell, pharmaceutical chemist, 36 Tyrrel Street, Bradford.

FRIEND: "Did you go to that oculist, as I suggested?" Nearsight: "Yes; he examined my eyes and gave me a piece of paper showing the sort of glasses I needed." "Why don't you get the glasses?" "No money left."

Legal Reports.

MESSRS. SPIERS & POND FINED UNDER THE PHARMACY ACT.

[This report appeared in our Supplement last week.]

AT the Mansion House, on Thursday, July 25, Messrs. Spiers & Pond (Limited), Water Lane, were summoned before the Lord Mayor for having on July 2 sold poison otherwise than as provided by section 17 of the Pharmacy Act, 1868. Mr. C. F. Gill prosecuted on behalf of the Pharmaceutical Society, and Mr. J. P. Grain (with whom was Mr. Sydney Knox) defended.

In answer to the Chief Clerk, Mr. Grain observed that his clients would plead not guilty.

Mr. Gill, in opening the case, said this was a prosecution by the Pharmaceutical Society, and the summons was taken out for an offence alleged to have been committed under the Pharmacy Act, 1868. It was alleged that the defendants had sold arsenic without taking any of the steps that were required by the 17th section. The defendants, at their stores in Water Lane, had a drug department where they sold medicines, and, judging by their catalogue, only persons thoroughly familiar with this Act were employed there; and they themselves pointed out, in this catalogue, that there were certain drugs which could not be sold unless the purchaser were known or introduced by a person known at the stores. Amongst the things sold in this drug department was an article called "Patent Powder Weed-killer," and, in consequence of information which the Pharmaceutical Society received, they caused a purchase to be made of this "weed-killer," and, on analysis, it was found to be composed of arsenic and caustic soda. The whole weighed about 2 lbs. 13 oz; three parts of it was arsenic and in the tin, which could be purchased for 1*s.* 8*d.*, there was enough arsenic to kill 6,000 people. With regard to arsenic there was a special Act, and yet it had been sold in this wholesale way. The manufacturers seemed to have a clear knowledge of the deadly character of what they were dealing with, for on the tin there was a direction that it should be buried or burned when empty. On July 2 a person employed for the purpose went to the stores and asked for a tin of this "weed-killer." He was served with a tin which would be produced in court, and paid 1*s.* 8*d.* for it. He was a perfect stranger to the person who served him, and there was no introduction or entry made—in fact, not a single provision of the Act was complied with. Dr. Stevenson, the analyst to the Home Office, confirmed the analyst to the Pharmaceutical Society. He (Mr. Gill) would ask the Lord Mayor to say that this was a case in which the full penalty would be a trivial fine.

Mr. John Partridge proved the purchase. He had never been to the stores before, and was not known to anyone there. He was not asked for his name and address, and signed no book. Mr. Grain: Do you call that a preparation of arsenic?—Witness: I don't know of my own knowledge. Mr. Grain: Do you know that a great many persons sell poisons without taking any of the precautions you have mentioned—carbolic acid, for instance? Mr. Gill: This witness merely made the purchase. The Lord Mayor: And two blacks won't make a white.

Mr. Ernest John Eastes, F.I.C., stated, as the result of his analysis, that there was from 72 to 78 per cent. of arsenic in the preparation. Mr. Grain: Are you aware that the Society have defined what in their opinion are preparations of arsenic?—Witness: No, I am not.

Dr. Thomas Stevenson said the preparation was highly dangerous. The quantity of arsenic in the tin was sufficient to kill at least 6,000 persons. By the Lord Mayor: He would consider this a preparation of arsenic within the meaning of the Act. The Lord Mayor: How can you get behind that, Mr. Grain? It struck me that there was more arsenic than preparation.

Mr. Grain said he did not consider this preparation did come within the Act. With regard to vermin-killer, the Pharmaceutical Society got that within the Act by exercising their power under section 2, and applying to the Privy Council to declare it as being within the Act. But this was not done in respect of weed-killer. He was informed that the Society had formulated what, in their opinion, was a poison within the Act; this preparation was not mentioned.

The Lord Mayor: One of the most eminent analysts who has ever lived has shown that this is a preparation of arsenic within the Act. How can I get behind that?

Mr. Grain: Then, if you have made up your mind, it is no good me arguing. But I might say that directly the firm's attention was called to this preparation the directors made up their minds that (whatever the decision of this Court might be) they would not allow this stuff to be on their premises again. They were not offending wilfully, and every precaution was taken at the stores to have none but qualified persons employed there.

The Lord Mayor: I don't think I shall be doing my duty without imposing a fine of 5*l.* The firm you (Mr. Grain) represent, not only to my knowledge, but to the knowledge of others, are one of the most respectable firms of the country, and I think that makes the offence worse. People of such eminence ought to make proper inquiries in order not to break the law. I impose a fine of 5*l.* and 5*l.* 5*s* costs.

Mr. Grain asked if it was necessary to make an order for costs.

Mr. Gill: Oh, they have got off very lightly. They might have been fined much more under another Act.

POLICE PROSECUTION UNDER THE PHARMACY ACT.

"KNOWN TO THE SELLER."

AT Southwark Police Court, on July 26, before Mr. Fenwick John Shipp Moore, chemist, Grange Road, Bermondsey, and Alexander Fare Fosse, chemist, Old Kent Road, were summoned under the Pharmacy and Sale of Poisons Act, 1868 (section 17), at the instance of the Commissioner of Police, on the information of Mr. E. N. Wood, deputy-coroner for the south-eastern district of London, for unlawfully selling to Frederick George Shade a quantity of aconite and chloroform without knowing him, contrary to the Act. Mr. R. W. Turner, barrister, defended Fosse. The proceedings arose out of an inquest held by Mr. Wood on the body of Frederick George Shade, who died on June 13, at which it was proved that he died from aconite and chloroform poisoning. At the inquest the defendant Moore gave evidence that he sold, on June 13, aconite to the deceased, who stated that he wanted it to rub into a dog, which was suffering. In the case of Fosse, 1 oz. of aconite and 1 oz. of chloroform were supplied by an assistant named Kelham, who knew the deceased as a customer, but did not know his name and address. Mr. Turner said his client thought he had sufficiently complied with the Act, as the deceased was known as a customer, and, moreover, the bottle containing the poison was labelled in large letters to that effect.

The Magistrate imposed a fine of 5*l.* and costs in each case.

PROSECUTIONS UNDER THE IRISH PHARMACY ACT.

A LADY DEFENDANT.

ON July 25, in the Southern Divisional Police Court of Dublin, before Mr. Swifte, Mrs. E. H. Barnes, of 3 Harcourt Road, Dublin, was summoned by the Pharmaceutical Society of Ireland for having on June 10 last, at 1 Charlemont Street, in the same city, "kept open shop for the compounding of medical prescriptions, and compounded a prescription for Patrick J. Walters, contrary to the provisions of section 30 of the Pharmacy Act (Ireland), 1875, she not being properly qualified to do so."

Mr. R. K. Clay, solicitor, conducted the prosecution on the part of the Society, and Mr. Jefferson appeared for the defendant.

Mr. P. J. Walters, an inspector of the Society, deposed that on June 10 he went into 1 Charlemont Street, and handed a prescription to a person whom he now saw in court, and whose name he afterwards heard was Corcoran. The latter took the prescripton from him, and made up two bottles, for which witness paid 1*s.* 3*d.*

To Mr. Jefferson: Corcoran was the only person in the shop at the time.

Mr. Jefferson said he admitted that Mrs. Barnes had purchased the interest in the lease of the house from the former proprietor, Mrs. Atkinson; and Mr. Corcoran was appointed to act as assistant under a distinct agreement that he was not under any circumstances to compound medicines.

Mr. Swifte: What sort of a shop is it?

Mr. Clay: A chemist's shop.

Mr. Jefferson: It is not a chemist's shop in the hands of Mrs. Barnes. She kept open shop, but not in violation of the section. She is charged with compounding a medical prescription. I will show you that she did not do that, and that if it was done by her servant it was in violation of her orders. The case is on all-fours with Madame Ruppert's case.

Mr. Swifte: I decided against Madame Ruppert on the law of her case.

Mr. Jefferson called Mr. John Walker, who had acted as solicitor for Mrs. Barnes, and who produced a copy of a letter, written by him on April 17 to Corcoran, in which he engaged the latter as assistant at 1*l.* a week, the engagement to be terminable by a week's notice, Corcoran to furnish daily accounts of the sales, and the letter concluded with the words:—"As the owner is not qualified, you are not to compound or sell poisons, or to act in any other way in contravention of the Pharmacy Acts." He (Mr. Walker) handed that letter to Corcoran, and he also had a conversation with him and explained what his position was in the shop. He told him this was a purely temporary arrangement; that the person who had bought the premises was not qualified, and that all he could do was to sell such articles in the shop as any ordinary outsider might sell. Mrs. Barnes sent a lot of things from her stationer's shop on the other side. On June 7 he was informed by Mrs. Barnes's son that someone had called at the shop to get a bottle made up. He was in charge while Corcoran was out, and he said he told the man he could not make it up. He (witness) wrote a letter to Corcoran on June 7, and received a reply from Corcoran on June 10, in which he said:—"In reply to your letter in reference to compounding, I beg to state that I am acting strictly in accordance with the letter received from you on my appointment." Until the prosecution was commenced he did not hear that any medicines had been compounded or sold.

Cross-examined by Mr. Clay: This is what your client bought—"All the beneficial interest and goodwill of the said R. D. and Maria Atkinson in the said business of chemist and druggist, as carried on as afore-aid in the said premises." That's the deed prepared by you?—Yes.

What you bought for your client was a business of chemist and druggist?—The business carried on there, everything they sell—oils and paints.

Though you knew Mrs. Barnes was unqualified, you wanted to carry on the business you purchased for her?—Certainly not.

Did you take down the notice in the window, "Prescriptions compounded here"?—No, I did not; and I will tell you why.

Isn't it up there at the present moment?—It is. It is graven in the wall, and could not be removed except by pulling down a part of the house.

Isn't it in white letters in the window?—I cannot tell. It is in the wall, and could not be taken down.

Mr. Jefferson: Explain why that statement is there; is this a temporary arrangement?—It is perfectly temporary. The first agreement was entered into on April 11, but, before we could complete it, an administration summons in the matter of the deceased Atkinson's estate was served by a mortgagee of the premises, Mr. West, and I arranged with the mortgagee; but we were not able to complete the transaction, as Mr. West got ill, and is still ill in London. On July 6 I got the mortgage-deed from the mortgagee on the understanding that I would hold it for him, and I got possession of the house on that day. I got possession of the shop before on the understanding that, if the arrangement fell through, Mrs. Barnes was to account to Mr. West.

Cross-examination continued: Didn't you carry on from April 11 down to June 10 for Mrs. Barnes?—I carried on the shop, to sell what anyone might sell.

Did you ask a Mr. Merry to conduct the chemist and druggist business?—No; I asked him to carry it on as it was.

Mr. Clay: Didn't Mr. Merry tell you he would not do it, because it was against the law?—No; he did not say anything of the sort.

Did you ask him to go into Mrs. Barnes's employment?—No; he never knew Mrs. Barnes's name in the transaction.

Did you know that there were materials for compounding prescriptions in the shop?—I could not tell you. I bought everything in the place.

Did you ask Corcoran to put out of the shop the materials for compounding medicines?—Why should I? I gave him the directions that are there.

Mr. John Frederick Corcoran deposed that he was a registered druggist of the Pharmaceutical Society of Ireland. He remembered the letter he got on his appointment by Mr. Walker. As well as his memory served him, he said, he adhered to the directions contained in it. He had no recollection of making up the prescription mentioned. Witness confirmed Mr. Walker's statement about the subsequent letters.

The prescription in question was then handed to the witness, who, after looking at it, said, "Yes, I made up that prescription."

Cross-examined by Mr. Clay: I knew that the premises belonged to an unqualified person.

Did you buy any additional drugs since you went there that would enable you to make up prescriptions?—Yes.

Who used to take the money from you daily or weekly?—Mr. Walker.

Did he pass the accounts for the purchase of the new drugs?—I cannot say.

Did you charge for the purchase of those new drugs on the accounts you gave to Mr. Walker?—I did.

Mr. Clay asked for the prescription-book.

The witness said he had not got it.

Mr. Walker: I told him to bring the books with him.

Mr. Clay: I want the prescription-book, which will put an end to that absurd letter of April 17.

Mr. Swifte: It seems to be a most important book. I will adjourn the case for half an hour in order that it may be produced.

The witness was ordered to go for the prescription-book, and left court. In the meantime,

Mrs. Barnes, the defendant, was examined by Mr. Jefferson, and deposed that she left the engagement of assistants and the management of the shop entirely in the hands of Mr. Walker. She knew of the letter which Mr. Walker wrote to Corcoran telling him not to sell poisons or compound prescriptions.

Cross-examined by Mr. Clay, witness said the white letters on the window, "Prescriptions carefully compounded," could not be taken down without breaking the whole window. As she was going to reconstruct the place, she left them there. It was her intention to make two or three shops out of it.

The witness Corcoran not having returned with the prescription-book, Mr. Swifte said he would adjourn the case until the next day. Immediately afterwards Corcoran arrived, and produced a book; but as Mr. Clay had left, the hearing of the case could not go on. The book which the witness brought was retained in court.

On Friday, July 26, Mr. Swifte resumed the hearing of the case.

Mr. Wheatley, solicitor, appeared for the witness Corcoran, and said he desired to give the fullest information.

Mr. Corcoran produced a prescription-book, and, in reply to Mr. Clay, said it was the only one in use. The last entry in it bore the date 4/6/95. A subsequent entry had no date.

Mr. Jefferson objected to evidence of any offence save that alleged to have been committed on June 10.

The witness, in answer to Mr. Clay, said the book he produced on the preceding day was not the prescription-book.

Why did you produce it?—Well, in a flurry, having a copy of this prescription in it. Witness further said on his oath he did not write anything into the book last night or get anyone else to do so.

The entry is a representation of the prescription on June 10?—I don't recollect. Of course I saw the prescription yesterday, but I don't recollect the items.

Witness further said that entry 389, folio 7, in the prescription-book related to the bottle handed to him, and that he entered it.

What was the meaning of your producing the other book last night?—I was in a flurry. I copied the prescription into it at the time I made it up on the 10th, when the inspector handed it to me. That is the day-book. I copied it in pencil as I had not a pen at the time, and I copied it into the prescription-book afterwards.

Was not the reason of your producing the other book last night that you had been compounding other prescriptions, and that these are in the prescription-book?—No.

How many prescriptions have you there?

Mr. Jefferson objected.

Mr. Swifte: He is only asking as to his motive for withholding the book he was directed to bring here yesterday.

Witness further said the prescription-book was open to the inspection of Mr. Walker.

Mr. Swifte: Did he see this particular entry?—He should have seen it.

Read what is on that package which you sold on April 17.—"Prescriptions carefully compounded. Oxalic acid. Poison." I put that label on.

Mr. Swifte: I visited the premises since yesterday, and on the window the words "Prescriptions compounded" are conspicuous, and they are on the door too.

Mr. Clay said he impeached the letter of April 17 and the subsequent letter as bogus letters.

The witness was cross-examined by Mr. Jefferson, and said he did not make the pencil entry in the day-book after he left court yesterday.

Why did you make the entry at the end of the book after two hundred blank pages—was it to hide it?—Certainly not. The book was on the desk for Mr. Walker or anyone to look at. I did not point out the entry to him.

Did you show Mr. Walker any prescriptions in the prescription-book?—I did.

When?—I could not think—in this month.

Pressed, the witness admitted that the statement in his letter of June 10, that he was acting strictly in accordance with his instructions, was a lie. He had made up prescriptions since his appointment in April. He did not pocket the proceeds of this prescription. The 1*s*. 3*d*. received for the prescription appeared in an item of 2*s*. 11*d*. put down as "sundries" in another book (produced). He omitted it during the day's business, and had that much cash over that night.

Is this a true statement—"In the returns I made to Mr. Walker of the sales there was nothing to indicate to him that I compounded any prescriptions, nor did I inform him that I compounded any"?—I would not say it is false.

Did you inform him?—Witness hesitated.

You must know?—You must pardon me—I never was placed in such a position before. I did give him a return; it is included in that as "sundries."

I repeat my question—Was there anything in that return to indicate that you had been compounding medicines?—No.

Mr. Jefferson handed the witness a leaf, and desired him to fit it into the book he had described as the "day-book," which the witness did. Who tore it out?—I don't know. I did not. Who had charge of those books?—They were in my charge. Were not you sent for that book yesterday?—I brought it down. Was the leaf out when you brought it down?—It was not There was no loose leaf in the book. It was found on the floor of the shop last night after the book was brought down to court, and it never left court. How do you account for that leaf?—Witness paused. It's in your own handwriting?—It is. I admit that. Have you any right to compound medicines?

Mr. Clay: He has none whatever.

The Witness: If I got employment with a pharmaceutical chemist, I believe I would have a right to compound.

To Mr. Clay: Mr. Walker requested me to write the letter of June 10.

Was it since the summons?—No; it was previous to my getting the summons.

Mr. Swifte: Did you write it on June 10?—I did.

Mr. Clay: At the request of Mr. Walker?—Yes. He told me he had heard I was compounding prescriptions, and he asked me to write him a letter to the effect that I was acting according to the letter I received from him on my appointment.

Then you wrote the letter although you had been compounding prescriptions?—That's so

Mr. Walker re-examined by Mr. Jefferson: Did the last witness show you any book?—Never, until after I got the statement dragged out of him that he had the book. That was on Tuesday last. He said he never compounded this prescription on the 10th.

Mr. Jefferson submitted that the summons should be dismissed. It had been shown that Corcoran made up the prescription without authority, and he thought the Magistrate would have no difficulty in coming to the conclusion that, whatever became of the proceeds of the prescriptions, they did not go into the pocket of Mrs. Barnes.

Mr. Clay contended that the evidence fully established the offence charged in the summons.

Mr. Swifte said a question of law was involved in the case. He would give his judgment about that day fortnight.

The case of the Pharmaceutical Society of Ireland *v*. Corcoran came before Mr. Swifte on Thursday, August 1. The defendant was the assistant whose evidence is reported in the case of the Pharmaceutical Society of Ireland *v* Barnes. He was summoned on a charge of illegally compounding a medical prescription at 1 Charlemont Street, Dublin, on June 1. His solicitor said his client would plead guilty, and he stated that the plaintiff Society had consented to accept 1*l*. fine, and 1*l*. costs. The case was adjourned to Friday, August 2, for formal evidence.

THE SALE OF FOOD AND DRUGS ACT.

Self-raising Flour.

Another prosecution under the Food and Drugs Act, in connection with the sale of self-raising flour, came before the Petersfield Bench on July 24. The flour in question was McDougall's self-raising, and on behalf of that firm Mr. Rhodes, barrister, applied that the sample retained might be sent to the authorities at Somerset House for independent analysis, and this was granted

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Boracic Acid in Milk.

In a milk adulteration case at Croydon, on Saturday, it was stated that the sample contained boracic acid, and this, it was contended, was illegal. A fine of 10*s*. and 11*s*. costs was imposed.

Spt. Eth. Nit.

At the Swadlincote Petty Sessions on July 30, John Hall, shopkeeper, was summoned for selling 3 oz spt. æth. nit., which the public analyst certified was deficient to the extent of 60 per cent. of ethyl nitrite, as required by the British Pharmacopœia. In reply to the Bench, the superintendent stated that he did not think the defendant had committed the offence wilfully, whereupon the Bench let him off with a fine of 5*s*. 6*d*., and costs.

THE BRITISH AND FOREIGN OPTICAL COMPANY AND THEIR CUSTOMERS.

The Assistant-Judge of the City of London Court (Mr. Julian Robins) and a jury disposed of two cases in which the British and Foreign Optical Company (Limited), Furnival Street, Holborn, were proceeding for payment of accounts. In one case, in which Mr. W. Price, chemist, of St. Helen's Road, Daubhill, Bolton, had been sued for 12*l*. odd, the money had been paid into court since the last occasion on which the matter was before the Court. But the plaintiff company also proceeded against Mr. J. Penn, Bridge End, Penistone, Yorkshire, for 8*l*. 14*s*. 6*d*. for spectacles supplied, and against Mr. J. Blair, of Petersfield, for 11*l*. 3*s*. 6*d*. also for spectacles. Both cases were defended by Mr. Eldridge. Mr. Penn's case was taken first.

Mr. Ralph Bankes, counsel for the plaintiffs, explained the facts [see *C. & D.*, July 20, page 82] to the jury.

Mr. Edwin Isaacs, the plaintiffs' traveller and manager, said he took the order from the defendant, and left with him a copy of the order which the defendant had signed in his manifold-book. One condition on which he sold the goods was that if any were unsuitable he would exchange them. He showed the defendant a circular on which his name would be printed, so that he could advertise the goods. It was not true that the defendant only agreed to receive some circulars, or that he signed the order for that purpose. The defendant at first refused to give an order; but he gave one afterwards. He told the defendant he was in a hurry to catch a train. The plaintiffs' name was not on the circulars sent to the defendant, because the defendant and the chemists on whom he called would not care to advertise the plaintiffs' business. He could not give any reason why Mr. Penn, in Yorkshire, and Mr. Blair, in Hampshire, should both come to that court to tell the same story of having signed their names simply to get circulars, and not with the idea of giving an order. All he could suggest was that they had met a fortnight ago in court. After the defendant had signed the order witness added the price of the goods; but that was all.

For the defence, Mr. Penn said he had travelled 175 miles twice in order to defend himself from the attempt made on the part of the plaintiffs to get money from him for goods which he never ordered. The traveller was in such a hurry that there was not time to talk over the matter in a business manner. When the goods were sent he did not even know from whom they came, as Isaacs did not leave any card, nor did the plaintiffs' address appear on the parcel. He would not distribute the circulars because there were testimonials on them which the people in his town would know had never been received by him. In cross examination he said he knew that all local chemists distributed bills about Beechams' pills, with testimonials which had been received by Beechams; but that was a different matter. There was nothing on the circulars but his own name, and he was not going to represent that the testimonials had been sent to him

Mr. Blair, the defendant in the next case, was called to prove that Isaacs carried on a system of calling on people and getting orders out of them, when they thought they had ordered only circulars, which were to come free.

The plaintiffs' counsel objected to this evidence, and the Assistant-Judge said such a course had never been adopted before, except in criminal cases; but he thought, having regard to what had been said, the evidence should be admitted.

Mr. Blair then described the way in which Isaacs called on him, and agreed to send him circulars, and 2*l* worth of spectacles as a sample, on condition that if he did not sell them he was to return them within twelve months. But, instead, he received 11*l*. worth of goods, apparently. He was in a hurry when Isaacs called, as he was just off to speak at a temperance meeting. He had heard that Mr. Price, chemist, of Bolton, who had also been sued by the plaintiffs, had, since the adjournment, paid the amount into court; but he did not know if that was so. He had never spoken to Mr. Price.

Mrs. Blair was also called to corroborate her husband.

The Assistant-Judge, in summing-up, said hints had been thrown out, and something more, that there had been a system practised by Isaacs which amounted to nothing more or less than swindling. The question for the jury was whether the case had been made out or not. Isaacs denied, as he was bound to do, that he had written the words objected to after the order was signed. It was a curious point whether the evidence of Mr. Blair was admissible in Penn's case, which was the one they were then adjudicating upon. In his opinion it was, because, whatever they might think of it, the defendant's case was that there was a system of going round the country and taking people in. Isaacs was evidently a very pushing person, and he made a visit to the villages in various districts Yorkshiremen were generally supposed to take care of themselves; but, if Isaacs spoke the truth in that case, apparently Mr. Penn was not able to take care of himself. It was a matter entirely for the jury to determine for themselves what they thought of the witnesses who had been called before them. Speaking personally, he had never had two men come forward with more appearance of truth in his life than did the two defendants. He thought they were both exceedingly good men. Mr. Blair, in particular, was under the best influences when Isaacs called, as he was just off to a temperance meeting where he was going to speak. Blair said that if he sold the goods, then, of course, he would have paid for them; but, if not, he was at liberty to return them into the plaintiffs' hands within a year. Both Blair and his wife were very respectable people, and it seemed to him that they were persons whom the jury might thoroughly believe. Isaacs seemed to have behaved as an active and intelligent canvasser; but the question for the jury was whether he had not overstepped the bounds of honesty in what he had done. He knew the value of a signature Did Isaacs write the additional words on the order with the intention of swindling, or was he justified in putting the words there? If he did write the words suggested, after it was signed, it did not affect the defendant at all, as he was only bound by what was there when he signed the order. They had been told that another defendant, Mr. Price, had settled the claim which was made against him. There was no evidence of that, and there was nothing to show what the terms were on which the settlement had been arrived at, if it had. If the jury believed the defendants' evidence, it was a very gross case of a man going round the country, and seeing if he could take in tradesmen in a small way just for his commission. The offer to exchange the goods was a very specious way of doing business. It looked very well on paper, no doubt. The jury must not be influenced by what he had said to them unless they thought the observations justifiable.

The jury, having considered the matter for a minute or two, returned a verdict for the defendant.

In answer to an application by Mr. Eldridge for costs on the higher scale, the Assistant-Judge said it was not often that he granted such an application; but this was a case which concerned persons all over the country, where people came down and forced their goods upon them, and he would give the defendant his costs on the higher scale. At the same time he would give the plaintiffs leave to appeal on the point as to whether Mr. Blair's evidence should have been admitted (to show the system set up) in Mr. Penn's case.

Mr. Bankes said he must retire from the case against Mr. Blair, for whom judgment was entered with costs, execution being stayed until after the hearing of the appeal in Penn's case.

RESTRAINT OF TRADE.

On July 26, at the Four Courts, Dublin, the Master of the Rolls of Ireland gave judgment in a case of Barrett *v.* Bayley, which had been argued before him on preceding days. The plaintiff, William George Barrett, trading as "W. G. Barrett & Co.," and carrying on business at 25 Great Strand Street, Dublin, as a compounder and manufacturer of "British wines," including cordials, ginger-wine, raspberry-vinegar, &c, sought an injunction to restrain the defendant, Mr. Thomas Bayley, from acting as manager of, or holding any position in, the Hop Stout Company (Limited), of 47 and 48 Stafford Street, Dublin, and from divulging the plaintiff's trade secrets. Damages were also claimed for an alleged breach of agreement. The plaintiff alleged that, by an agreement of July 30, 1888, the defendant entered his service as chemist and manager of his manufacturing department on the terms that the defendant was to receive a salary of 200*l*. a year, to be increased by 20*l*. a year till it reached 300*l*, the defendant binding himself under a penalty of 500*l*. not to accept a position inside the United Kingdom with any firm of rectifiers or compounders that would bring him or them into competition with the plaintiff, and also agreeing not to make use of or divulge the plaintiff's trade secrets to anyone. There was a clause that any discoveries connected with the business should be the property of the plaintiff; and it was provided that either party should be at liberty to determine the engagement by three months' notice. The defendant continued in the plaintiff's service under that agreement until March 19, 1893, when he entered the service of the Dublin Hop Stout Company (Limited), which was formed to acquire and work an invention sold by the plaintiff to that company for the manufacture of hop stout, and became their managing director. In February, 1895, that company engaged in the business of compounders and manufacturers of British wines, which was the same as that carried on by the plaintiff. The plaintiff alleged that while the defendant was in his service he acquired a knowledge of certain valuable trade secrets, and he believed that he had divulged, or would divulge, them to the company with which he was now connected.

The defence pleaded was that the defendant had entered into the service of the company at the plaintiff's wish, he having assisted the plaintiff in the perfection of the drink called "hop stout." He also alleged that except in regard to the manufacture of hop stout there were no trade secrets of the plaintiff, the processes used by him having been well known; that if the defendant had acquired or learned anything whilst in the plaintiff's employment, he had no intention of disclosing same to the company, nor had he ever threatened to do so. The defendant further contended that the agreement on which the plaintiff relied amounted to such a restraint on trade as to render it void.

The Master of the Rolls in the course of his judgment said: Whether or not the first part of the agreement was couched in language too wide to be legal, the validity of the part which prohibited the disclosure of trade secrets could not be disputed. The law would imply it from the defendant's acceptance of a position involving such secrets; and there was nothing in common sense to prevent the operation of a clause to prevent gross treachery. After tracing the connection of the plaintiff and defendant with the manufacture of hop stout, and the history of the company formed to work it, he pointed out that a committee of the directors, of which Mr. Barrett was not a member, reported in favour of the company commencing the business of rectifiers and makers of British wines. It was not surprising that Mr. Barrett should have felt sore at the way he was treated in connection with that matter, as he never dreamt that the company which he had originated would go into competition with himself. It was said that the agreement was in total restraint of trade, and therefore void at law. Construing it as unlimited in point of both space and time there was very little doubt that as the law stood in the last century it would have been held to be plainly contrary to public policy. It used to be considered that any agreement restraining the carrying-on of trade which was unrestricted in point of area was void, even though it was only for a short time. Here both space and time were unrestricted. Going back to the time of the battle of Agincourt they found a judge in a celebrated judgment saying that every contract in restraint of trade, even though limited in point of space and time, was bad, and that any plaintiff trying to enforce it would have to go to gaol. The law as to the matter had, however, come to depend on the question of reasonableness. Contracts in restraint of trade were not favourably regarded by Courts of Equity. Still, there was a tendency to enforce such contracts if possible as between persons who had deliberately entered into them knowing what they were doing; and it might be taken to be settled that even where the restraint was unlimited in point of extent it would be upheld if it were reasonably requisite for the protection of the interests of the party seeking to enforce it. His Lordship referred to a number of cases, and said the question had now come to be whether the restraint was more extensive than the interests of the plaintiff required. But he could not suppose that the agreement in the present case would be held to be a reasonable one by any Court conversant with the facts of the case. Mr. Barrett had competitors in his business in Dublin and in other places in Ireland, and also in London, Liverpool, and elsewhere. As to the trade secrets, were there any in this case at all? No doubt Mr. Barrett laboured under extreme difficulty in this part of his case, for if the secret were stated in open court it was gone. He was unable to come to the conclusion, on the evidence given, that the plaintiff had any trade secrets. He did not decide as a fact that there were none; he only decided that they had not been proved to his satisfaction. Mr. Bayley had sworn that he had not any trade secrets, and there was no proof that he had attempted to do anything that he could be restrained from doing. As to the first part of the agreement, it was practically a general restraint of trade, and transcended both as regards space and time anything that was reasonably requisite for the protection of Mr. Barrett's interests. He could not, therefore, make any order for an injunction founded on it. But he would grant an injunction restraining Mr. Bayley from making use of, or divulging, any trade secrets—if such there were—of W. G. Barrett & Co. The main reason why he did that was because he thought Mr. Barrett had been badly treated by Mr. Bayley. The latter, when he accepted the position of managing director of the new company, for which Mr. Barrett qualified him, should have told him that he did not hold himself bound by the agreement; and if he had done that, Mr. Barrett might have said, "I won't transfer you to the company at all—you must continue in my service." As to costs, this gentleman who entered into an agreement, and now claimed to break it on grounds of public policy, was not entitled to consideration, and therefore he should bear his own costs.

REFRESHMENT HOUSES ACT AND HERB-BEER.

At the Bradford Police Court on July 30, Robert Lester McCulloch and his wife, who carry on business separately in Manchester Road, Bradford, and Leeds Road, Bradford, were summoned under the Excise Refreshment Act for having sold refreshments to be consumed on their premises after 10 o'clock at night without being licensed to do so. The Stipendiary inflicted a fine of 2*l.*, and 8*s.* costs, or the alternative of twenty-one days' imprisonment.

Mrs. Elizabeth Bland, of Otley Road, Bradford, was summoned for a similar offence. The Inland Revenue officer stated on June 4 last he visited defendant's shop at 10.45 P.M. and saw a man served with herb-beer, which he drank in the shop. The defendant was fined 1*l.*, and 8*s.* costs.

THE "HOMOCEA" TRADE-MARK.

On August 1, Mr. Justice Stirling, sitting in the Chancery Division, had before him a motion to remove from the register three trade-marks, numbered respectively 172,619, 180,222, and 183,079, vested in the Liverpool Mortgage Insurance Corporation (Limited). The applicants were Messrs. Johnstone & Johnstone, of Long Acre, London, who sought to have expunged from the register the marks with a hand pointing to a spot, with the legend "It touches the spot." The case was not concluded, and will be reported in our next.

THE IRISH PHARMACY ACT—PROSECUTION FOR COMPOUNDING.

At Dungannon Sessions, on July 29, Richard C. Marshall, druggist, of 42 Market Square, Dungannon, and his son, Robert Evans Marshall, of the same address, appeared to answer four summonses at the suit of the Pharmaceutical Society of Ireland, two of which charged R. C. Marshall with having kept open shop for compounding and dispensing prescriptions, and with having compounded a prescription for Mr. George N. Phillips, Inspector of the Society, without being qualified to do so, and the other two charged Mr. R. E. Marshall with the same offences on the same date.

Mr. W. B Galway, solicitor, Belfast, conducted the prosecution, and Mr. Samuel Howard, solicitor, appeared for the defendants.

Mr. Galway said the defendants were in business as chemists. On May 8 Mr. Phillips went to the defendants' establishment and tendered a prescription. When he handed it in Mr. Marshall, sen., said: "As a matter of fact, this is illegal for me to do, but I know very well how to do it, and I think it is no harm." In April, 1894, Mr. Marshall was before the Court for a similar offence, and, on the advice of Mr. Howard, pleaded guilty and was fined 5*l.* As he had had notice of the illegality of his act he (Mr. Galway) now asked that the fines should be imposed in both cases.

Mr. Howard submitted that, as Mr. R. E. Marshall was only an assistant in the shop of his father, the two summonses against him could not be sustained. Mr. Marshall, sen., was not a pharmaceutical chemist, but he was a chemist and druggist, registered as such, and therefore he could keep open shop for anything except the compounding of prescriptions.

Mr. Galway: That is what we complain of.

Mr. Howard: If it be proved that he filled a medical prescription, I admit that he must be fined.

Mr. Galway: The son is a partner with his father, and is therefore liable as a principal.

Mr. Howard: If there were twenty partners in a druggist's establishment surely you could not fine each of them 5*l.* for the one sale?

Mr. Galway: Yes; if they are partners, and not a company.

Mr. Howard: Mr. Marshall has no knowledge of the circumstances, and it is really like paying a fine in the dark; but we will plead guilty in the one case.

The Chairman: We fine Mr. Marshall 5*l.* in that one case, and we dismiss the others.

Mr. Galway: I ask you to give 1*l* costs.

The Chairman: There was a case against Mr. Marshall before, and therefore I ask Mr. Marshall now to give an undertaking that he will not commit the offence again.

Mr. Marshall, sen., who was in court, said he gave that undertaking.

Mr. Galway: I want to prove the case now against his son.

The Chairman: It is dismissed against the son because he is not a partner.

Mr. Galway: Over the door there are the words "Marshall & Son." Mr. R. E Marshall was there on the day that Mr. Phillips called to get the prescription filled, and he took part in it, as Mr. Phillips will tell you. I therefore ask you to hold that he is a partner.

Mr. Howard said he was only an assistant; but, assuming that he was a partner, there could be only one fine for each offence imposed on the firm. If there were twenty partners could they be fined 5*l* each?

Mr. Galway said they could. The words of Section 30 were: "Any person acting in contravention of this enactment." It might as well be said that if two men beat a third, only one of the two could be prosecuted.

Mr. Howard: There is only one offence here.

The Chairman: We have already fined the father because of an act done by the son, the son acting not as a partner, but as an agent. We cannot punish the son twice over.

Mr. Galway: The son's agency is not proved.

Colonel Burgis: The Magistrates are satisfied that the ends of justice are satisfied by the one fine.

Mr. Galway said that if the Bench were against him there was no use in wasting time, but he contended that the son as well as the father was liable to a penalty if the son was there when the act was done, and was a consenting party to it.

Colonel Burgis: You want blood as well as flesh.

Mr. Galway: I am acting for the public as well as for the Society. The lives of the public must be preserved. I do not want to press for anything that I am not entitled to; but I strongly urge that as these two men, carrying on the business of druggists, committed the offence on a certain day each is liable to punishment. They were both present, and the father knew it was against the law.

Mr. Howard: Whether or not they are partners?

Mr. Galway: I would like to hear formal evidence as to partnership.

Mr. Marshall, sen, was sworn and examined by Mr. Howard, and deposed that his son worked behind the counter, but was not a partner. There was no written or verbal agreement between them.

Cross-examined by Mr. Galway: Who draws the profits of the concern?—Nobody but myself.

Does your son receive nothing at all?—Nothing whatever.

No salary?—No salary whatever.

He lives on nothing?—He lives with me as his father.

How old is he?—He is in his twenty-second year.

Has he a vote? (Laughter.)—He has not, nor never tried to get it.

The Chairman: We dismiss the other cases.

Mr. Galway asked for 1*l.* costs.

The Bench acceded to that application.

BRIGHT'S PURE DRUG COMPANY.

In continuation of the proceedings, reported in our last, respecting possession by a receiver of this company's affairs, appointed by Mr. Justice Kekewich in a debenture-holder's action, being disturbed by William Stuart Dickson, the local manager of the business at Clapham, Mr. Eve on Tuesday in last week applied to his Lordship to commit Dickson to gaol for contempt of Court, and an order was made on some strong affidavits put in by the learned counsel; but, as we stated, it subsequently appeared that the proceedings were invalid, the necessary formality of serving Dickson with the notice of motion not having been complied with, he not having been found. The substance of the complaint against him was that when Frank Freeman, engaged by the receiver to take possession of the premises and receipts, presented himself at the business premises at Clapham, Dickson became very violent, threatened him, asserted that nobody should supersede him, and ordered the assistants not to obey the official of the Court. He declined, moreover, to say the bank into which he had paid his receipts—which, it was found, had amounted to some 87*l.* odd, whereof but 18*l.* 10*s* had been paid into a local bank. Moreover, a desk locked up in the shop had been broken open and the money therein extracted, and a padlock to secure the shop was forced at night, during the official's absence. This information, sworn to and presented to the Court last week, was supplemented on Tuesday last by Mr. Jenkins (for Mr. Eve) presenting to Mr. Justice Kekewich an affidavit of service of Dickson with the notice of motion for his committal (though he did not appear on being called), and by a further affidavit by Freeman that on Saturday last Dickson again presented himself at the shop, soon after 10 P.M., and, addressing deponent and a clerk, told them that he had been advised they had no legal right there, and having also been told that he was the only person entitled to possession, he intended to act on it and have the cash. He accordingly took some 11*l.* from the desk and 3*l.* from the till, which he carried away after threatening one of the assistants. Mr. Justice Kekewich: You can take the order for his committal, which would have gone last week, but that the affidavit of service on him was not then forthcoming; and he must also pay the costs.

CORRECTION.

Messrs. E. Geraut & Co., referring to the report of the case concerning them in our issue of July 20, wish us to state that the witness Barnard, the canvasser, said in his evidence that it was from the plaintiffs (not from the defendants, as appeared from our report) that he had received something before going into the witness-box.

Personalities.

Mr. Charles A. Bentley, assistant with Mr. A. S. Buck, Liverpool, has passed the First examination for the M B at the Aberdeen University. He was also awarded the silver medal in chemistry, given by the Medical Faculty of the University College, Liverpool.

H.M. The King of Italy has conferred the order of the Crown of Italy on Baron de Bush, in consideration of the important development of oil manufacture in Messina, Sicily, and his efforts in endeavouring to improve the *morale* of the essential-oil trade in that country.

The Managing Committee of the South London School of Pharmacy (Limited) have appointed Mr. J. Thomas, B.Sc. (first-class honours in chemistry and physics Lond.), from the Royal College of Chemistry, as an additional demonstrator in the chemical and physical laboratories. Mr. Thomas is a former Bell scholar and medallist of the Pharmaceutical Society.

Of estate of the late Mr. S. M. Burroughs, personal property worth $15,000 is situated in New York State, so application has been made to Surrogate Arnold, New York, for ancillary letters of administration. The *Pharmaceutical Era* states that the bequests to Henry George and certain institutions at Medina, N.Y., are in excess of the amount of personal property in the State, so the money held there will be retained to pay a portion of the bequests, following an arrangement with the London executors.

A gold medal has been awarded to Mr. Giffard H. Lenfestey, of the National Art Training School, for a set of sketches which, the examiners report, are not only charmingly drawn, but are also useful architectural studies. He is also a winner of a bronze medal for still-life painting in water-colours. His brother Stanley de Jersey Lenfestey, a scholar of Peterhouse, Cambridge, has gained at the City of London School the Fishmongers' Scholarship, tenable at Cambridge for four years, and the school prize for mathematical proficiency. The above are sons of Mr. W. Giffard Lenfestey, chemist, Piccadilly Circus.

New Companies and Company News.

The Sanitas Company (Limited) have declared an interim dividend at the rate of 10 per cent. per annum for the six months ending June 30 last, free of income tax.

Price's Patent Candle Company.—The directors recommend a dividend of 15*s* per share for the half-year ending June 30 last. The profit during that period amounts to 35,000*l.*

Brooke's Soap (Monkey Brand) Company.—We are informed that the issue of 100,000*l* 5 per cent. cumulative preference shares in this company, the prospectus of which was advertised in our last issue, were applied for several times over. Allotment may be expected immediately.

Joseph Brooks & Co. (Limited), with a capital of 20,000*l.*, in 10*l.* shares.—Objects: To enter into an agreement with John Brooks and Edward Holt, and to carry on business as drysalters, manufacturing chemists, wholesale and retail chemists and druggists, oil and colour men, &c. The first subscribers (each with one share) are:—E. Holt, Woodthorpe, Bury Old Road, Prestwich, brewer; John Brooks, Monton Holme, Eccles, near Manchester, manager; Joseph Brooks, 42 Shudehill, Manchester, chemist; B. Brooks, 103 Cheetham Hill Road, Manchester, manager; Miss M. Brooks, 184 Cheetham Hill Road, Manchester; Misses A. and E. Brooks, Albert House, South Shore, Blackpool. The first directors (to number not less than three nor more than five) are the first three subscribers. Qualification, 100*l.* Remuneration, 150*l.* per annum, divisible.

Edward Packard & Co. (Limited).—Capital 100,000*l* in 10*l* shares. Objects: To acquire the business carried on by Edward Packard, jun., and Henry W. Packard as "Edward Packard & Co.," at Ipswich and Bramford, Suffolk, and elsewhere, to enter into an agreement for the purpose, and to manufacture, sell, and deal in phosphate of lime, phosphate rock, guano, sulphuric acid, chemical manures, and other raw materials. The first subscribers (each with one share) are:—E. Packard, J.P., and Miss A. E. Packard, Pembridge House, Ipswich; E. Packard, jun., J.P., Grove House, Bramford; H. W. Packard, merchant, and H. A. Packard, L and R.A., Crane Hall, Ipswich; Rev. O B. Packard, Deepdene Rectory, Bury St. Edmunds; E. T. Packard, 2 Garden Court, Temple, E.C., barrister-at-law. The first directors (to number not less than three nor more than five) are Sir Henry T. Wood, Geo. H. Hughes, E Packard, jun., and Henry W. Packard. Remuneration, 100*l.* each per annum. Registered office, Duke Street, Ipswich.

Koko-Maricopas Company (Limited).—Capital 5,000*l*, in 1*l.* shares. Objects: To acquire and carry on the business of manufacturing chemists, perfumers, and dealers in "Koko for the hair," carried on by a company of the same name at 11 Gray's Inn Road, W.C., and 233 Regent Street, S.W., and to enter into an agreement with the said old company and D. Easum, its liquidator. The first subscribers are:—A. J. Dadson, 1 Dorset Road, Merton Park, S.W.; Miss E M. Dadson, same address (100 each); Mrs. B. Gurney, 11 Gray's Inn Road, W.C.; D. Easum, 302 Regent Street, S.W., chartered accountant; A. E. Sandell, 156 Worple Road, Wimbledon, engineer; P. M. Poole, Tudor House, Hadley, New Barnet, advertising agent; D. T. Lark, 13 Lidyard Road, Highgate, clerk (1 each). The first directors (to number not less than two nor more than five) are Arthur J. Dadson (managing director) and Miss Emily M. Dadson. Qualification, 100*l.* Remuneration, 500*l.* per annum, divisible.

Dr Fouquier's Elixir Syndicate (Limited).—Capital 17,000*l.*, in 3,380 ordinary shares of 5*l.* and 100 founders' shares of 1*l.* each. Objects: To acquire, take over as a going concern, and carry on the business of a patent-medicine manufacturer and merchant, carried on by Dr. Paul J. J. B. Fouquier, in connection with a patent medicine or preparation called "Dr. Fouquier's Elixir," and to enter into an agreement with the said vendor. The first subscribers (each with one share) are:—P. J. J. B. Fouquier, M.D., 33 Norfolk Square, Hyde Park, W.; J. M. Barlow, 170 Adrian Terrace, Redcliffe Square, S.W., secretary; J. W. Moyle, 167 Barry Road, East Dulwich, engineer; W. H. Barnard, 34 Crowther Road, South Norwood, clerk; Wm. S. Dunscombe, 12 Montague Road, Croydon, clerk; J. Coop, 22 Bridge Row, E.C., accountant; R. H. Home, 50 York Terrace, Tunbridge Wells, retired. The first directors (to number not less than three nor more than five) are O. D. Deacon and Richard Rowe. Qualification, 100*l.* Remuneration, 400*l.* per annum, divisible.

Benjamin Brooke & Co. (Limited).—Capital 250,000*l*, in 5*l.* shares (20,000 5*l.*-per-cent. preference). Objects: To enter into an agreement with Benjamin Brooke & Co., a concern incorporated under the laws of Pennsylvania, for the acquisition of the business carried on by it at Philadelphia, U.S.A., and to carry on the business of soap and candle makers, seed-crushers, paper-makers, varnish-manufacturers, paint and colour merchants, chemical-manufacturers, &c. The first subscribers (each with one share) are:—S. Gross, 19 Queensborough Terrace, W., merchant; A. S. Marks, 25 Clanricarde Gardens, W., gentleman; C. Herald, 205 London Road, Croydon, gentleman; A S. Jecks, 24 Austin Friars, E C., solicitor; W. H. Fordham, 36 York Road, King's Cross, clerk; W. H. Fordham, Holly Mount, Hendon, N.W., gentleman; D. Williams, 70 Kynaston Road, Stoke Newington, clerk. The first directors (to number not less than three nor more than eight) are Sydney Gross, Henry B. Gross and William B. Fordham. Qualification, 1,000*l.* Remuneration, 3,150*l.* per annum, divisible.

Electric Ozone Syndicate (Limited).—Capital 12,000*l*, in 10*l.* shares. Objects: To acquire, develop, and turn to account the letters patent, patent rights, and inventions, granted to or obtained by Emile Andreoli, for generating and dealing with ozone by means of electricity, and using ozone for various purposes, and to carry on the business of mechanical and electrical engineers, and makers of and dealers in all kinds of apparatus connected with the said inventions. The first subscribers (each with one share) are:—Cornelius Hanbury, 37 Lombard Street, E.C., wholesale druggist; Frederick J. Hanbury, same address, pharmaceutical chemist; W. P. Henderson, 85 Gracechurch Street, E.C., merchant; E. Andreoli, 18 Somerleyton Road, Brixton, journalist; R Arnot, 1 Raymond Buildings, Gray's Inn, merchant; W. L. Castleden, 46 Sheen Park, Richmond, secretary; G. Andreoli, 18 Somerleyton Road, S.W., electro-chemist. Registered without articles of association.

Medico-Psychological Association of Great Britain and Ireland.—No capital, but has a membership of not more than 700, each of whom is liable for 1*l.* 1*s.* in the event of winding-up. Objects: To take over the assets and liabilities of an unincorporated association of the same name, and to promote and cultivate the science in relation to mental disorder. The first subscribers are:—D. Nicholson, M.D, Broadmoor Asylum, Wokingham; H. Rayner, M.D., Upper Terrace House, Hampstead; H. F. H. Newington, The Gables, Ticehurst, Sussex, M R C P. Edin.; C. Newman, Richmond District Lunatic Asylum, Dublin, F.R.C.P. Ireland; D. Yellowlees, M D., Gartnadel, Glasgow; T. S. Clouston, M.D., Royal Asylum, Edinburgh; G. F. Blandford, M D, 48 Wimpole Street; F. Beach, M B., 64 Welbeck Street, W. The management will be vested in a President, President-Elect, Ex-President, Treasurer, General Secretary, Divisional Secretaries, Editor or Editors of the Journal, and two Auditors.

African Saltpetre Company (Limited), with a capital of 300,000*l.*, in 1*l.* shares.—To enter into an agreement with John S. Brunskill for the purchase of six nitrate farms in Griqualand West, South Africa, and to dig or mine for nitrate of potassium. The first subscribers (each with one share) are:—W. Smith, Padstow, Kent House Road, Beckenham, clerk; R. M. Rands, 46 Queen Victoria Street, E.C., clerk; C. Forbes, 1 Elspeth Road, S.W., clerk; H. W. Butler, 1 Blackburn Road, West Hampstead, accountant; W. Rampling, 64 Gloucester Road, Peckham, clerk; W. Fowke, 89 Antill Road, Bow, manager; J. Gardner, 40 Fitzroy Street, W., clerk. The first directors (to number not less than three nor less than seven) are to be appointed by the subscribers. Qualification, 250*l.* Remuneration, 300*l.* each per annum, and 400*l.* per annum for the chairman.

The British Medical Association Exhibition.

AN excellent and thoroughly representative exhibition of modern pharmacy has been open during the week in the Medical Examination Hall on the Thames Embankment in connection with the annual meeting of the British Medical Association now in session in London. The Association has not met in the metropolis since 1873, and during the interval has grown in membership from about 1,500 to over 16,000. The members attending the annual meeting are said to number between 5,000 and 6,000; but they did not all put in an appearance when the Archbishop of Canterbury opened their proceedings by a sermon in St. Paul's Cathedral.

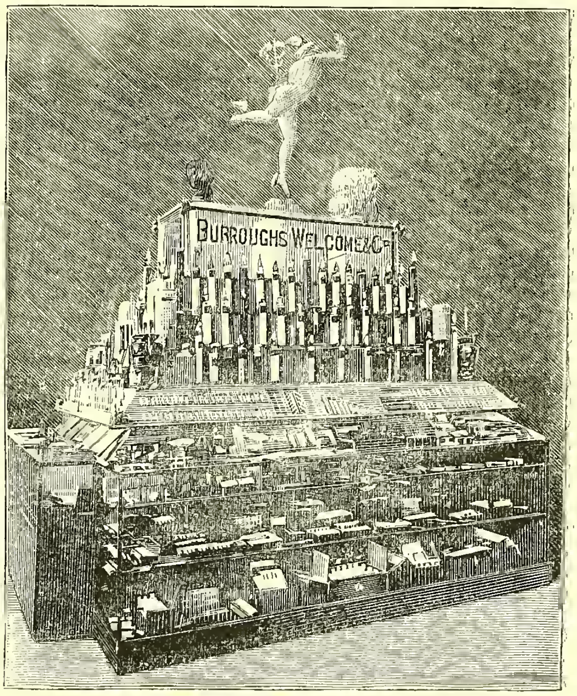
A very considerable number seem to be visiting the Exhibition, or "Museum," as it is officially termed. The keenest interest is shown by the visitors in pharmaceutical novelties, and, as far as we can gather, the exhibitors are generally satisfied with their apparent results, notwithstanding the greatly-increased charges imposed this year for space.

Seven shillings and sixpence per superficial foot was the rate for ordinary space, but it was all taken up, and we are assured that the committee could have let three times as much if they had had it at their disposal. The centre of the principal room—a position facing every visitor as he entered the Exhibition—was put up for tender, and it is reported that 200 guineas was the highest bid, which secured it. It is, perhaps, needless to add that the firm to whom it was allotted was that of Messrs. Burroughs, Wellcome & Co.

We regret to have to add to these remarks a complaint of apparently deliberate discourtesy. When the Exhibition was being organised, Dr. Tirard, to whom was entrusted, we believe, the chief charge of its arrangements, came to this office and expressed the hope that we would do what we could to make it a success. We fulfilled his wish as far as our opportunities went, and we considered it came within our functions to report on the exhibits pretty fully. But such hindrances to this task as officialism could put in our way were provided. Our representatives were flatly refused admission to the Exhibition on Tuesday morning, because they were not furnished with tickets. There was no member of the committee in the building, and the porter or doorkeeper seemed to be invested with supreme authority. Mr. Francis Fowke, the Secretary of the Association, in an irritably emphatic manner had previously refused to give more than a single ticket to THE CHEMIST AND DRUGGIST, and a member of the committee (Mr. George Brown), whose journalistic experience should have made him a better judge, and who we cordially admit did his utmost to help us, characterised our request for six tickets as "perfectly absurd." Mr. Andrew Clark, F.R.C.S., who seemed to be on the pinnacle of authority at King's College, glided away from our representatives as quickly as he could under the plea that he did not wish to interfere; and Dr. Tirard, who was bodily undiscoverable, has not yet replied to our letter of expostulation. How our six representatives did get in ultimately is another story; but it was not until the whole of Tuesday morning and some amount of temper had been wasted. We can only now express the hope that when medical men have another exhibition to get up they will put it in the hands of a professional showman.

However cursory a glance the most hurried of visitors may cast at the exhibition, he cannot fail to notice the magnificent exhibit of BURROUGHS, WELLCOME & CO., of Snow Hill, London. It is not only the biggest so far as area goes, but much the highest of any. The massive central pyramid, draped in blue velvet of a non-aggressive tint, presents a dignified contrast to many of its gaudier neighbours, where scarlet is the predominant hue of the background. On the side facing the main entrance the pyramid is surmounted by a bust of Æsculapius; while, still higher, a traditional figure of Mercury reaches almost to the ceiling. Indeed, if any fault can be found with the B., W. & Co. exhibit, it is that it is *too* high for the room, the white-washed ceiling failing to throw the still whiter figure of the god of commerce into proper relief. The show-jars and other ornaments on the central pyramid—two or three hundred in number, perhaps—lend a pleasing variety of colour and brilliancy to the whole, which is further increased by the beautiful collection of gilt, plated, and tortoiseshell medicine-cases, and the cut-glass bottles in the glass cases surrounding the central pyramid.

A set-off to this brilliant show is formed by a group of dark, battered, and generally travel-stained medicine-chests, which have been presented to the firm by grateful explorers upon their return from many of those adventurous voyages that form one of the main topics of the Geographical Congress now also assembled in London. Needless to say, the fortune —nay, the life—of many a dauntless traveller has often hung upon the reliability of the B. W. chest in his baggage. None the less interesting because they are old friends are the Stanley and the "Rear-guard" "Congo" chests of Central African fame. With these may be grouped the trustworthy chest which has travelled repeatedly through the Zanzibar, Uganda, and Victoria-Nyanza districts; the Rendall case, in constant use from 1888 to 1894 in China, Japan, the West Coast of Africa, the Canary Islands, India, the West Indies, and the Transvaal; Dr. Burland's medicine-chest, used in explorations in Thibet and in the Himalayas; and the medicine-belt designed by Mr. Henry S. Wellcome for Captain Stairs's Katanga expedition. So useful was the last-mentioned belt that its replicas have since been employed in the fitting-out of every exploring-party of any importance of late years. The leading members of both the Nansen and Harmsworth expeditions are provided with belts of this description, but he would be a bold man who would predict that the belts of these expeditions will ever grace any of the firm's future exhibitions.



BURROUGHS, WELCOME & CO.

Among the other offerings which voyagers have laid at the Snow Hill shrine upon their safe return may be mentioned the raw-hide medicine-chest used by Mr. Julius Price, of the *Graphic*, in his Arctic and Siberian explorations, and afterwards in China, Japan, and America. We are further shown a small medicine-chest of Wilkie Collins, which may have accompanied that pleasing author on his frequent excursions to the Realms of Fancy and the Isles of Imagination; and some interesting relics of the great Dr. Jenner. "Tabloids" receive the due share of space they merit. The ophthalmic, hypodermic, aural, and nasal varieties claim a meed of attention, while the tea and photographic classes are not overlooked. The section that is of the greatest interest, however, is that devoted to "Tabloids" of Organic Substances of Animal Origin and the accompanying specimens of the glands and other organs from which they are made. These "Tabloids," made from the whole substance of the organ from which they are prepared, are rapidly replacing the various liquid extracts of doubtful keeping qualities and uncertain action. "Tabloids" of thyroid and thymus glands, supra-renal capsule, didymin, cerebrinine and bone medulla are in large demand now; the clinical reports made in this week's lectures at the meetings of the Association will probably still further stimulate the use of these and other animal remedial agents. Messrs. Burroughs, Wellcome & Co also prepare "Tabloids" of ovarian substance, kidney substance, spleen substance, uterine-wall substance, pituitary body and pineal gland.

Dry anti-diphtheritic serum is one of the preparations on which the firm pride themselves, and justly so because, while bacteriological research was still in its infancy, they did not hesitate to expend large sums of money without hope of direct return. Certainly they were the first private firm in Great Britain to prepare the serum for supply to the medical profession generally, and in the eager early days of its preparation they more than once refused offers from the public of as much as 10 guineas for a single tube. Again, they are the first British firm to perfect the preparation of serum in a dry form. The sparkling, golden scales in which the dry serum is sent out, although non-deliquescent, are readily soluble in water, yielding a serum of full potency and less bulk than the old liquid form, thus causing less pain to the patient into whom it is injected.

A series of glass jars, containing the results of the various purifying processes through which "Emol Keleet" passes in the course of its preparation from natural mineral earth to a refined powder of phenomenal softness and absorbent powers, aptly illustrates the laborious mechanical treatment which the earth undergoes on its road from the mine to the pharmacy.

The B.W. powder insufflator is naturally to the fore. "Paroleine" ointment atomisers too, are coming in general use for the application to the nasal pharyngeal and laryngeal passages of solutions in "Paroleine" of such substances as menthol, thymol, eucalyptia, &c.

Specimens of many other of the well-known products of this firm are also shown, but we can only mention a few of the more prominent ones, such as the Kepler, Hazeline, Lanoline, the Burroughs beef-and-iron wine, Wyeth's beef juice, Meister, Lucius & Brüning's synthetic preparations —agathin, alumnol, antipyrin, dermatol, diaphtherin, loretin, and phenosalyl—Bayer's sulphonal and Knoll's diuretin.

Allen & Hanburys (Limited), of Plough Court, E.C., have two very large stands, one being devoted to their pharmaceutical preparations, the other exclusively to surgical instruments. In the first-named section our attention was called to a new feeding-bottle, which we will illustrate next week, and which is designed on somewhat new principles. The bottle opens readily at both ends, and can, therefore, be easily cleaned. The one end is closed by an air-valve, from which air enters as the contents of the bottle are being emptied. Chrismoids are gelatine capsules filled with various antiseptics, and their chief claim is that they can be very easily carried about. The chrismoids contain a sufficient quantity for one application, and its contents may be readily squeezed out when the capsule is pierced, without causing any trouble in administration. At present chrismoids are offered varied with bi-chloride of mercury, boracic acid, carbolic acid and izal, and they are put up in boxes containing three of each variety, the name of the preparation being stamped on the capsule. Considerable prominence is given at this stand to preparations of animal extracts, notably thyroidin prepared from the thyroid gland. The preparations are in the form of powder which is the one best administered in cachets, also in the best form of tabellæ and as an elixir. Among the newest of these preparations are cerebrin extract—an extract of the grey matter of the brain, bone marrow-extract, thymus gland extract, &c. The Plough Court House act as agents for the antitoxin of the British Institute of Preventive Medicine. As might be expected a good deal of space is devoted to bynin, bynol, byno-hyperphosphites and other preparations and derivatives of malt, also to the tasteless cod-liver oil and the "perfected" cod-liver oil for which the firm have been so well known for many years.

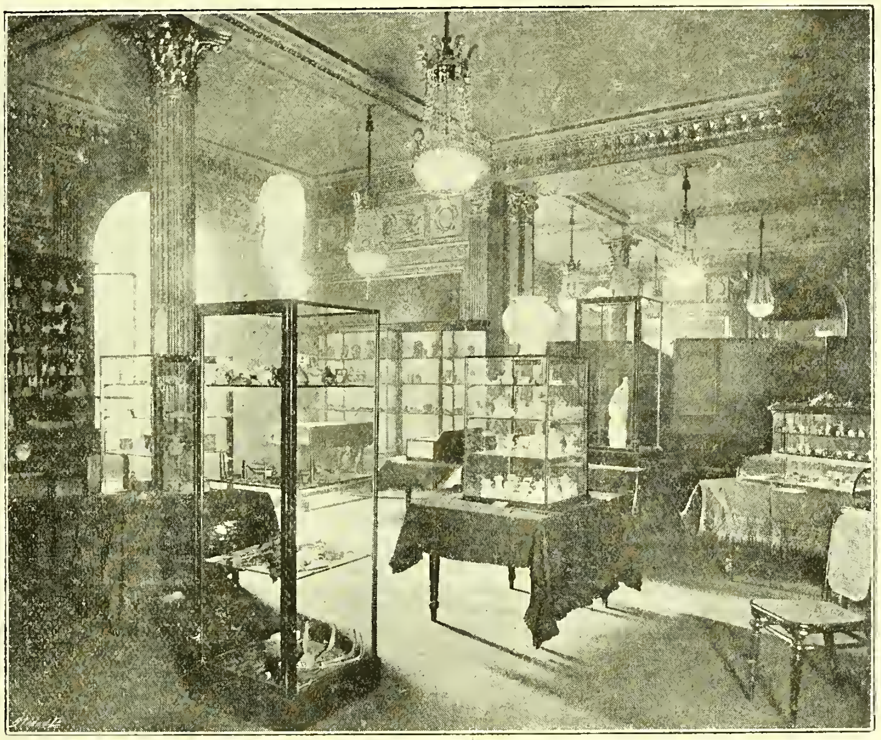
Oppenheimer, Son & Co. (Limited), of 14 Worship Street, E.C., rank among the most prominent exhibitors in the central room of the "Museum," but their chief show is a side one, and is located in the Victoria Rooms of the Savoy Hotel, to which we will make our way presently. Meanwhile, a glance at their pretty velvet-draped stand in the Examination Hall discovers an excellent and attractive display of palatinoids and bi-palatinoids, those beautiful and—may we not say?—almost indispensable new pharmaceutical preparations which lend themselves so well to the purpose. Terebene and creasote palatinoids are among the latest preparations of their class. Soluble hypodermics—small pellets made without compression, and readily soluble in cold water without trituration—are also found in great variety. It is a great advantage of these preparations that they may be dissolved in the barrel of one of the firm's hypodermic syringes, and this is done without the aid of any stirring or crushing instrument The syringes in question are incorrodible, very light and compact, and are put up in flexible hypodermic cases along with four tubes of soluble hypodermics. The firm, by the way, are agents for Pasteur's antidiphtheria remedy. The "Globe Nebuliser," a simple and easily handled atomiser of oily and aqueous solutions, is also shown. According to Mr. Martin, of the firm, who has recently returned from an African trip, this apparatus is selling particularly well in tropical and subtropical countries. Needless to say, Messrs. Oppenheimer, like the progressive house they are, have lately been paying special attention to the preparation of animal extracts.

Another feature of the Oppenheimer exhibit is the Downes iodine solution, which is being shown for the well-known firm of Brooks & Co., of 136 Lower Baggot Street, Dublin. This solution of iodine was invented by Mr. R. S. Downes, L.P.S.I., who claims for it that it is rapidly absorbed through the skin, which it will not stain if it is rubbed in lightly until dry. Yet a further feature is that it does not irritate or blister the skin, hence it can be repeatedly applied to the same spot, which has heretofore been an impossibility.

The Victoria Rooms, a suite of luxurious and ample apartments in the Savoy Hotel, have been secured by Messrs. Oppenheimer & Co. during the session of the Congress for the purpose of exhibiting their beautiful collection of medical, surgical, and pharmaceutical antiquities, now known as the Oppenheimer-Sambon collection The nucleus of this museum was first shown at last year's meeting in Bristol, where considerations of space (it was located in a vamped-up wooden shanty) prevented full justice being done to it. Since 1894 the collection has been more than doubled, and in its present roomy residence it is seen at full advantage. Mr. Oppenheimer expounded the beauties of the collection to a party of medical visitors and press-men, including our representative. About half the specimens are figures in terra cotta, used as votive offerings by the Etruscans and Romans. Most of these are in an excellent state of preservation, and, in a few, traces of colour are still preserved. The other half are surgical instruments dating from the commencement of the Christian era downwards, and comprising some interesting mediæval specimens which, we think ought to be placed in a separate group. Perhaps the most interesting part of the surgical-instrument section is a collection of forty-three different implements found in the tomb of a Roman surgeon-oculist. Most of the instruments are in bronze, and the workmanship, as a rule, is of remarkable excellence. Some have developed a beautiful green or bluish patina, which gives them the appearance of having been shaped out of malachite or lapis lazuli. The scalpels and lancets had iron blades, but these are generally missing, having rusted away altogether. In some instances, however, they are still preserved, especially in those instruments which were found in the Tiber. One of the probes in the collection is of lead, and was probably a model.

Another interesting part of the exhibition is the collection of votive offerings, or "Donaria," which were hung at the shrines of medical deities, or thrown into healing waters by the patients, who had but little faith in the physicians of their day. These votive offerings represent every part of the human frame. Roman safety-pins differed but little from the newest Birmingham article of the present day; in fact, we are not certain, after inspecting the Oppenheimer collection, that a certain patent pin now much used does not come pretty near infringing the rights of a Roman party, who left behind a number of pins in the lava of Pompeii. Roman feeding-bottles are generally of terra-cotta, in the shape of old lamps; sometimes they combine the functions of the useful and the pleasant, by being shaped as toys, in the form of ducks, tortoises, &c.

It has been a happy thought of Messrs. Oppenheimer to combine with the Roman collection an exhibition of modern and ancient pharmacy. One of the recesses of the Victoria Rooms has been fitted up by Bowley & Govier as a modern pharmacy furnished in the most elegant style, while next to it is a fair imitation of a seventeenth century chemist's shop, for which Mr. Lawrence, of Knaresborough, who claims to possess the oldest pharmacy in England (it was established in 1720) has lent some of his valuable shop-bottles and pottery.



The Oppenheimer-Sambon Collection of Medical Antiquities.

Armour & Co., of Chicago, and 59 Tooley Street, S.E., have their usual neat show of beef-pepsin preparations, pancreatic-powders, and other digestive ferments. They are not bringing out any new preparation on this occasion, excepting rennet tablets—small grey tablets put up in bottles, and very much resembling pepsin-tablets in appearance; each of these is said to be sufficient to curdle ½ pint of milk. A little handbook distributed by the firm gives some interesting particulars of their stock-yards and other factories at Chicago, and contains a number of useful recipes for foods prepared by means of the pancreatic or pepsin tablets of the house. Another comparative novelty is the sheep's thyroid tablets, which contain 5 gr.; these tablets present desiccated sheep's thyroids in a form convenient for dosage, each tablet being equivalent to one-third of an entire healthy lobe. The tablets are put up in bottles of 100 each.

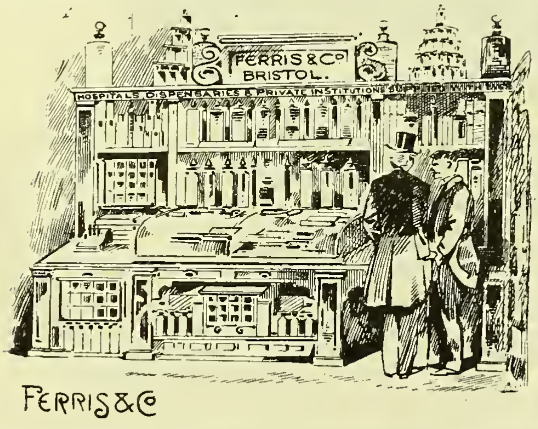
Messrs. Burgoyne, Burbidges & Co., of 16 Coleman Street, are represented at this Exhibition, we believe, for the first time in their history. The position which they occupy is not as good a one as might have been expected from a firm of their standing, but it is probable they will make a bigger display next year. The principal goods shown at their stand are Dr. Von Heyden's preparations of salicylic acid, salol, bismuth, phenol, and guaiacol. Among the last-named guaiacol carbonate is enjoying a continually increasing sale owing to its efficacy in phthisis. Chlorobrom, which is also shown here, is becoming very popular as a remedy for sleeplessness. It has also been administered with some success as a hypnotic in melancholia and certain mental diseases, and has been found exceedingly useful as a preventive of sea-sickness. Among other articles exhibited at Burgoyne, Burbidges & Co.'s stand are medicated lint, "Red Cross" bandages, containing 6 per cent. of carbolised absorbent wool, and the granulated seidlitz salts of Dr. Chanteaud, of Paris, the well-known originator of the system of dosimetric medicine.

J. F. Macfarlan & Co., Edinburgh, are also represented in Room A, where they have an effective show of their specialities, among which purified chloroform for anæsthetic purposes is one of the principal. Their anæsthetic ether, which is also shown, is another preparation for which the firm are well known through the world. A speciality is made of sulphur-cones, for disinfecting-purposes. Each cone weighs 4 oz., and is supplied with a little metal stand, upon which it is put when lighted, so that it may burn completely without any danger. These cones are very largely used in hospitals and for sanitary-purposes generally. A good assortment of antiseptic dressings is shown, including carbolised gauze, iodoform gauze, boric, carbolic, and iodoform lints and wools, and various other preparations, made up according to the formulæ of Sir Joseph Lister.

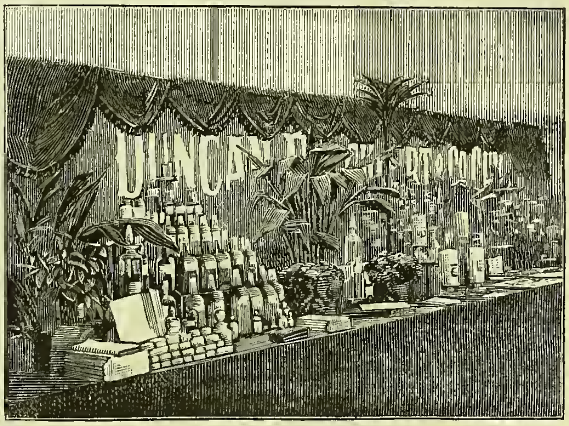
Robinson & Sons (Limited), of Chesterfield, and 55 Fann Street, E.C., have an exhibit next to that of Macfarlan & Co., devoted entirely to antiseptic and absorbent surgical dressings. One of their principal articles is cellulose-wadding for surgical use. This is made by a patent process from white pitch-pine fibre, thoroughly sterilised in the course of manufacture, and may be medicated with any antiseptic used in the Listerian system of surgery. The lints made by the firm are used by the largest London and provincial hospitals. A portion of the stand of this firm is used for the purpose of displaying some of the goods of Reynolds & Branson, of Leeds. These articles comprise the bandage-shoot, an appliance intended to supply bandages automatically, and from which they may be taken without loss of time. It would be specially useful at fire and railway stations, in collieries or factories, where bandages may suddenly be required in cases of accident.

Lorimer & Co have a very extensive exhibit of pharmaceutical preparations. Their syr. hypophosph. co. is the most prominent article; but they also show in bulk and in stylishly put-up packages their iodised oil, each fluid ounce of which represents 10 gr. of iodine. their distilled extract of witch hazel, and their coca wine. Why this was admitted we do not know, as it was understood that alcoholic beverages, even those bearing a medicinal title, were to be rigidly excluded. Messrs. Lorimer have besides packages of Dr. Turner's hygienic towels, and as an attractive gift to the doctors' wives their representative, Mr. Speiyer, presents occasional bottles of their lavender salts, a shilling bottle of perfume with sprinkler top, which should be a good line for chemists.

Ferris & Co, Union Street, Bristol, although not represented quite so prominently on this occasion as they were last year in their native city, have an exhibit of considerable attraction, which is certainly one of the finest of those of the size. Considerably over a hundred pharmaceutical preparations, not to speak of a large variety of "sundries" and surgical instruments, are shown. Among the last-named are aseptic metal-cases of eye-operating instruments, scalpels, pocket dressing-cases, &c. We also noticed here a number of ovarian instruments designed by Dr. J. Greig Smith, such as a myoma screw, intestinal clamp, hystereotomy clamp, and reel-holder with platinised reels. The myoma screw referred to is a modification of the smaller instrument originally designed by Dr. Tait; but it is cylindrical, instead of conical, in shape. The firm are very strong in the department of antiseptic dressings and artificial limbs; and, like so many other manufacturing houses, they have lately come out prominently in the preparation of thyroid goods. Of the latter they show extract, elixir, powder, tablets, capsules, and pills. Mention should also be made of the "Ever-ready" caddy for storing surgical dressings. We noticed this article last year, but it has been considerably improved since that time in various details. As the caddies are both dust-proof and almost airtight, the antiseptic properties of the goods stored in them are kept unimpaired. The contrivance is a simple one, consisting of a rectangular box with lid, furnished with a longitudinal spindle round which the dressings are wound. Caddies may be had singly or in a cabinet containing an assortment of eighteen of the most frequently-used dressings in two sizes.


FERRIS & Co
BRISTOL.
HOSPITALS DISPENSARIES & PRIVATE INSTITUTIONS SUPPLIED
FERRIS&Co

Duncan, Flockhart & Co. make their *début* in London at this exhibition, for we hear that they have appointed Mr. Sol. Taylor, who has had considerable experience in the Midlands, to look after their interests in the Metropolis, and the opening of a branch is but a question of time. Their exhibit comprises a special show of chloroform, in which the blue-label article is particularly prominent. This chloroform is of sp. gr. 1·490, and contains 1 per cent. of alcohol—a percentage certainly far in excess of what is necessary to preserve a pure chloroform from decomposition, but it is put there to make preservation doubly sure, and to give those who imagine that the purity of chloroform has something to do with the fatalities common at this side of the Border, that confidence which makes for success in surgical operations. The firm are still extending their capsule department, in which they employ sixty girls, and a fine collection of capsules, perles, cachets, and cachet-perles, has prominence in the exhibit. Animal extracts were, of course, to the fore, and the firm showed a new superfatted soap called "Baumol," made for toilet use and in combination with various medicaments and antiseptics.

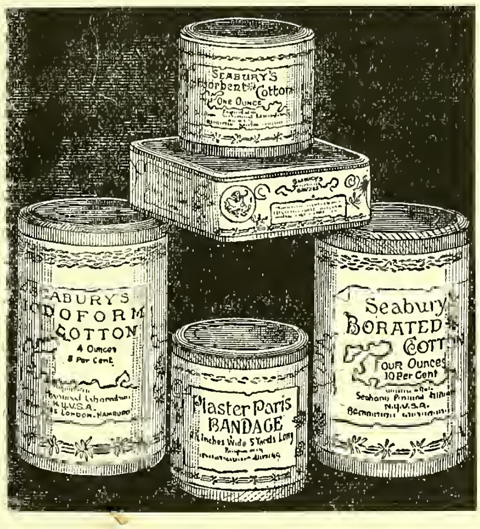


Duncan, Flockhart & Co.

Southall Brothers & Barclay, Birmingham, have an exhibit of considerable size and originality. It is well arranged and divided into four sections, one of which consists entirely of concentrated standardised tinctures. Among these we would specially refer to the standardised belladonna preparations containing definite proportions of alkaloid, to which reference was recently made by Professor Attfield in his report to the Medical Council. The firm make a speciality of Blaud's pills, and they showed us a sample of pill-mass, which seemed to be of excellent quality, as well as simple and compound sugar-coated Blaud's pills. The new remedies exhibited by the firm comprise a number of new granular effervescing preparations of lysidine water—the latter being a solution of the new uric acid solvent lysidine in aërated distilled water. Another section is devoted mainly to bacteriological apparatus, special prominence being given to the ureometer manufactured by the firm. It is needless to say that Southall's well-known A1 cod-liver oil is very much in evidence, and so are a large number of the usual pharmaceutical preparations and of materia-medica cabinets for students. The walls close by the exhibit are decorated with a number of original photographs of Roman surgical instruments discovered in the remains of Pompeii. These pictures were obtained by the firm from the Royal Italian photographer, and attract considerable attention on the part of the visitors.

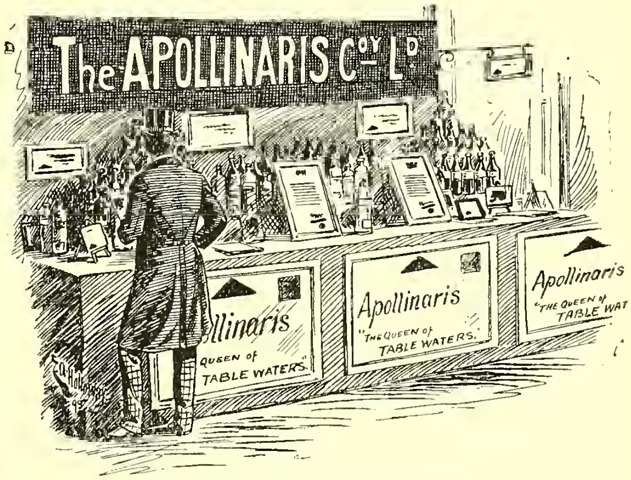
"These airtight septic containers are our latest novelty," said Mr. Johnson (of Fassett & Johnson), as he was engaged in finishing off the arrangements of **MESSRS. SEABURY & JOHNSON'S** miscellaneous display. "The containers are made of papier-maché, varnished, and absolutely airtight. We use them for all our gauzes, and in them the medication will remain unimpaired until the container is opened. Where a more solid container is required we use these moulded glass jars with the screw-top. That little waistcoat-pocket case, with several yards of ½-inch adhesive plaster, is very useful. It sells at 6*d.*"

FASSETT & JOHNSON.


SEABURY'S Absorbent Cotton One Ounce
SEABURY'S IODOFORM COTTON 4 Ounces 8 Per Cent
Seabury's BORATED COTTON Four Ounces 10 Per Cent
Plaster Paris BANDAGE

"Have you seen our vaccination-shields? You see they are simply like very large bunion-plasters; but they answer their purpose perfectly."

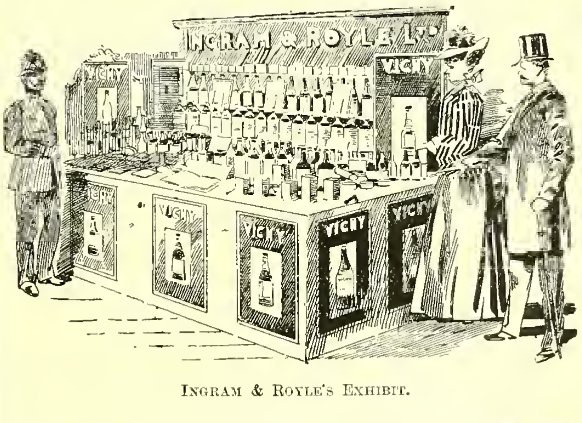
THE APOLLINARIS COMPANY are regular visitors to these exhibitions. Their very large stand is nicely draped in red, and a sketch of it is given on the next column. The Apollinaris water is so well known that it is almost impossible to say anything new of it. It is here shown in nicely-arranged groups of bottles and jars. One side of the exhibit is occupied by the show of the Friedrichshall water, from the new spring, which has lately been opened, the old spring, after a continuous tapping of about fifty years, having lately given indications of an approaching exhaustion of the saline deposits from which the water derives its value. According to the analysis made by Professor Fischer last year, the water of the new spring is almost identical in chemical composition with that of the old one, when it was analysed by Liebig in 1846. Sulphate and chloride of magnesia are present in rather larger proportions in the new spring, which, on the other hand, contains less sulphate of lime than the old. A reprint of a visit to the Apollinaris spring and the surrounding country, with a description of the water, from the *St. James's Budget*, is given away to visitors at the exhibit, and there is an effective showcard of three nigger-boys seated on some boxes of the Apollinaris water.


The APOLLINARIS Coy Ld
Apollinaris "The Queen of Table Waters."

THE APOLLINARIS COMPANY (LIMITED).

THE HARROGATE CORPORATION have a rather effective exhibit of their famous mineral waters facing the show of the Apollinaris Company. This exhibit is very much on the same lines as that which appears regularly at the annual Museum. It contains photographs of the baths and buildings at Harrogate, specimens of the chalybeate waters, both strong and mild, and the alum waters and salts extracted from them.

The waters to which special attention is drawn on the stand occupied by **MESSRS. INGRAM & ROYLE (LIMITED)** were the Æsculap, the Vichy, the Carlsbad, and a new aspirant for medical favour, known as the "Big Rapids," from America. According to an analysis by Professor Prescott, of Michigan University, this water contains the enormous quantity of 17825 gr. of mineral salts and bromides per gallon. Chloride of sodium accounts for 13,000 gr., and chloride of calcium for 3,261 gr. The water is stated to be useful for gout in any of its forms. The new form of Carlsbad salt devoid of water of crystallisation was also shown.



INGRAM & ROYLE'S EXHIBIT.

CATLEY ABBEY NATURAL SELTZER-WATER COMPANY, of Digby, Lincolnshire, have a small exhibit of what they claim to be the only English natural seltzer-water. Catley Abbey water is said to be of pleasant and refreshing taste, and to mix well with milk, wines, or spirits. Its proprietors also show a certificate of analysis by Professor Attfield, which pronounces the water to contain nearly 134 gr. per gallon of chloride of sodium, 5 gr. of bicarbonate of sodium, 4 gr. of carbonate of magnesia, and 3½ gr. of carbonate of calcium.

JOHANNIS (LIMITED), of Zollhaus (Germany), the "partner Jo" of Mr. *Punch's* recent jokes, shows a fine trophy of the famous mineral water of the 35,000-gallon-a-day-spring. Naturally, full use is made of the report of the *Lancet* special commissioner declaring the water to be among the best of its kind, and a quantitative analysis is given of the solids (1·083 gramme per litre) found in the water.

BOVRIL (LIMITED) make a pretty display of their numerous products, with which they cater for all classes of consumers, from invalids to athletes. BRAND & CO. have an exhibit of their numerous invalid-essences and other dietetics, which are too well known to need detail. HORLICK & CO. adopt a novel method of calling attention to their malted milk. Visitors are invited to experiment with the phonograph, which is placed on their stand with about half-a-dozen ear-tubes. The performance consists of a three-minutes' lecture, in which the merits of the preparation are ably expounded.

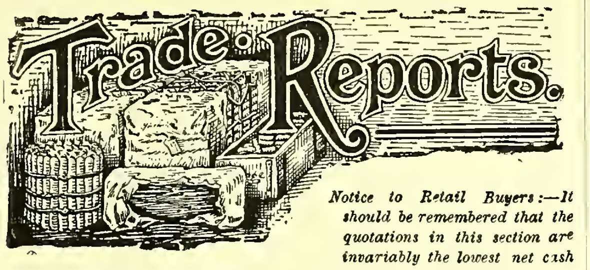
FAIRCHILD BROTHERS & FOSTER.—This popular New York firm, who are represented in England by Messrs. Burroughs, Wellcome & Co., have a very large exhibit, quite separate from that of the last-named house. The articles shown by them belong almost exclusively to the class of digestive ferments, and the action of several of their remedies is demonstrated by practical experiments at the exhibit from day to day. One of the principal novelties (a preparation which is now for the first time shown in England) is the Peptogenic Milk-powder, which is used very largely in America, and will, no doubt, be employed extensively in this country as soon as it becomes well known as a substitute for human milk. For this purpose, a measure of the Peptogenic Milk-powder is added to 4 parts of cow's milk, 4 of water, and 1 of cream, the result, it is said, bearing an exceedingly close chemical resemblance to the article it is sought to supplant. Fairchild's pepsin has been well known for many years; it was the first really potent article of its kind put on the market, and is capable of digesting three thousand times its weight of egg-albumen, according to the standard test. The firm guarantee the purity of their pepsin, which possesses ten times the proteolytic power of commercial pepsins. Fairchild's pepsin is also put up in the form of tabloids, with the addition of a little acid and certain aromatic substances, which make them pleasant to the taste as well as valuable digestive agents. Another new preparation in this exhibit is Pepsencia, a digestive essence obtained by direct extraction from fresh calf-rennet. Pepsencia is brought into commerce in the form of a pleasant and aromatic liquid, and, in addition to its valuable properties as a remedy for indigestion, is used as a means for administering drugs which are liable to disturb the digestive functions. Fairchild's Zymine has long been known in England, and it is, therefore, unnecessary to say more of it than that it is a substance which contains the pure digestive ferments of the pancreas, and will predigest the various foodstuffs; hence by adding it to such stuffs as beef-tea, gruel, &c., the food will be predigested, and be rendered exceptionally useful as an invalid-diet. A number of preparations of Zymine are also shown. *Glycerinum pepticum* (Fairchild) is a glycerine extract of the peptic ferments, possessing all the characteristics of a concentrated active solution of pepsin. It is devoid of objectionable odour and taste, and freely miscible without precipitation and cloudiness with all proper menstrua and media. It is notably free from all the disagreeable qualities and characteristics of peptone solutions, and contains neither alcohol nor antiseptic other than glycerine of the purest quality.

JOHN MORGAN RICHARDS covers an extensive space with Lacto-peptine only. His representative directs the special attention of visitors to the Lacto-peptine tablets, each containing 5 gr., which were specially noticed as a novelty in our last issue.

WILLOWS, FRANCIS & BUTLER, of 101 High Holborn, W.C., are among the pioneer manufacturers of animal extracts. At their nicely displayed exhibit they show brain extract (*extractum corticis cerebri*), a whitish powder prepared from the cortical portion of healthy brains and prescribed as a nerve-food and stimulant for promoting the nutrition of the central and peripheral nervous systems, and several other preparations, such as suprarenal extracts, extracts from the pituitary body, and thyroid extract, a remedy for myxœdema. Liquor calcis iodinatæ, a lime-and-iodine compound, is also on view.

Nothing in the exhibition itself was equal in style to the "side-shows," if it is permissible to so allude to the very stylish and costly undertakings of Messrs. Oppenheimer, Sons & Co. (Limited), and of Messrs. Hertz & Collingwood, in the Savoy Hotel next door. We describe the former exhibition elsewhere. Messrs. Hertz & Collingwood's was of quite a different character. Special invitations were issued to the principal doctors attending the meeting to visit the "Princess Ida" rooms for the purpose of tasting the Laurent Perrier's champagnes. The rooms were some of the choicest in the hotel, on the first floor, with a balcony attached overlooking the Thames Embankment. Elegant luncheons were provided, and with these the Laurent Perrier "Sans-sucre" champagne was served. Samples of the Laurent Perrier "Coca-tonic" champagne, and of the firm's new wine, "Jerezcona"—a fine old sherry, with which is combined an extract of cinchona—were also offered. Specimens of Jansen's cod-liver oil and of the Levico and Franz Josef waters were shown in a glass case. This was the only indication of any business intent visible. Some hundreds of the leading medical men of the country were entertained in this manner by Messrs. Hertz & Collingwood.

[*⁎* *Our space is this week so fully occupied that we find it necessary to reserve the remainder of our report on this interesting Exhibition.*]


Trade Reports.

Notice to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable even for manufacturing purposes.

It should also be recollected that for many articles the range of quality is very wide.

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42 CANNON STREET, E.C., *August* 1.

In our market report this week we include several paragraphs concerning last week's drug-sales, some of which have not been published, while others only appeared in the Orange Supplement of the Summer issue.

The Liverpool Oil and Chemical Market.

There is little new to report (says our Liverpool correspondent, under date of July 31). There is one thing, however, that strikes us—namely, the firmness with which values are upheld in spite of the long-continued dulness. Most quotations are nominally unaltered, and some resist all aggression; but there are weak spots where firm offers do make an impression. There are further rumours of syndicate movements in the chemical-trade, and it is considered that an effort will be soon made to increase prices. The *Palm-oil* market is fairly steady, and business has been transacted at 18*l*. 10*s*. to 20*l*. 5*s*. per ton, according to quality. The *Olive-oil* trade continues good, and prices are well maintained. According to the half-yearly report of one of the large importers, the shipments of Gallipoli to the United Kingdom for the half-year ending June 30 have been only 500 tons, against 1,900 tons for the previous five years. As the wool-combers of Yorkshire are supposed to get only Gallipoli, it is evident other olive oil, that has never seen Gallipoli, has been palmed off instead. This trade allows more sophistication than, perhaps, any other, owing to the difficulty of detecting admixtures. *Cottonseed*, *Linseed*, and *Petroleum* as last week.

A Cubeb Movement.

Our Amsterdam correspondent writes, under date of July 31:—We have had a much better market for cubebs the last day or two, and higher prices have been paid. A holder to-day placed upon the market two parcels of cultivated berries, one of 16 bales (585 kilos), for which he asked 20 cents per half-kilo, another of 196 bales (8,300 kilos), for which he asked 25 cents. Both parcels sold very readily at full rates.

ACACIA.—A good business has been done privately in East Indian *Ghatti* gum, several hundred cases changing hands at from 24*s*. per cwt. for ordinary up to 28*s*. per cwt. for fair medium.

ACID (CITRIC), 1*s*. 1½*d*.; makers' price, 1*s*. 1¾*d*.

ACID (OXALIC) remains unchanged at 3⅝*d*. per lb. net.

ACID (TARTARIC).—English, 11¼*d*., spot; foreign, 11*d*.

ALOES.—There has been an arrival of 64 cases of Cape aloes this week.

BISMUTH.—In consequence of the cutting in bismuth salts which has lately been carried on by at least one English firm (though not one of the recognised convention manufacturers), the syndicate makers have been compelled to lower their quotations for the salts, although there has been no change in the price of the metal. The last column of the subjoined table gives the presents manufacturer' quotations, although the cutting-firm appears to be prepared to shade these prices.

—	Before June 1, 1894	June 1 to Nov. 26, 1894	Nov. 26, 1894, to June 30, 1895	July 6 to Aug. 1	Present Price
	Per lb. *s. d.*	Per lb. *s. d.*	Per lb. *s. d.*	Per lb. *s. d.*	Per lb. *s. d.*
Bismuth citrate, B.P. ..	6 9	5 1	4 9	4 7½	4 6
„ nitrate crystals ..	4 6	3 1	2 11	2 8¼	—
„ oxide, B.P. ..	9 10	7 0	6 6	6 2½	6 1
„ salicylate 64 per cent. Bi_2O_3 ..	9 6	8 2	7 3	6 4½	6 3
„ subcarbonate ..	8 0	5 5	5 0	4 7½	4 6
„ subchloride (cosmetic)	8 0	5 5	5 0	4 7½	4 6
„ subnitrate, B.P. ..	7 3	5 0	4 7	4 3	4 1
„ tannate	5 0	3 6	3 3	3 1½	3 0
Bismuth metal	7 6	4 3	3 9	3 6	—

All prices subject to a reduction of 1*d*. per lb. for 1-cwt. lots.

BUCHU.—Dull of sale and tending a trifle easier. Of 26 packages only one sold at 2½*d*. per lb. for ordinary round, yellowish mixed. Fair green was bought in at 3¼*d*.; genuine long narrow leaves, not very good in colour, at 7*d*. per lb.

CAFFEINE.—Somewhat firmer, owing, it is said, to the receipt of orders from America and the Continent.

CALUMBA.—In good supply, but very firmly held. Nothing was sold, but several offers were rejected, from 12*s*. 6*d*. to 13*s*. 6*d*. being offered in vain for fair yellowish mixed sorts.

CAMPHOR (CRUDE).—There has been a further slight advance in the price since last week, and the market closes very strong, with every prospect of a further rise. For *Japanese* camphor, July-August shipment, 175*s*. has been paid repeatedly, and to-day holders refuse to sell anything more at that price. The asking-quotation is now 180*s*. per cwt. In *Formosa* camphor no business has resulted, the nearest price quoted being 165*s*., c.i.f. terms, July-August shipment.

CANARY-SEED.—At the spice auction on Wednesday 200 bags *River Plate* seed realised from 33*s*. 6*d*. to 34*s*. per qr. A fair quantity *Turkish* seed was bought in at 42*s*. *Mogadore* at 42*s*. 6*d*. per qr.

CANELLA ALBA sold at lower prices, 10 bales, small to medium split pale mixed quill from New York, realising from 23*s*. to 26*s*. per cwt., a decline of about 2*s*. 6*d*.

CARAWAY SEED.—Reported dearer from Holland. For finest quality (new crop) 30*s*. per cwt., c.i.f. terms, is now asked.

CASCARILLA.—The demand remains very good, and although 87 packages of recent import were offered, they all found buyers. Common grades are slightly easier. Bright quill. 48*s*.; fair small clean, brown and green mixed, 35*s*. 6*d*. to 29*s*. 6*d*.; thin dull bark, 27*s*.; good dust, 24*s*. per cwt.

CHLORATE OF POTASH.—Flat: 4⅝*d*. to 4¾*d*. per lb., f.o.b. Liverpool.

COLOCYNTH remains firm. Three cases good bright pale Turkish apple were bought in at 2*s*. 6*d*. per cwt. at auction.

CREAM OF TARTAR.—Best white French crystals, 73*s*.; powder, 75*s*. to 76*s*.

CROTON-SEED has been very scarce lately, and the 23 packages which were offered to-day sold at higher prices: Good pale, slightly dark mixed, 40*s*.; medium, at from 30*s*. to 35*s*. per cwt.

CUTTLE-FISH remains low in price, 20 bales small to bold, partly dark mixed, sold at the last auction at 1*s*. 0¼*d*. per lb.

GLYCERINE.—All the German brands remain very firm in price. *Schering's* double-distilled, s.g. 1·260, is still held for 61*s*. per cwt., the highest figure which we quoted last week.

HONEY.—*Jamaica* honey of the new crop is offering freely, and prices are tending downwards. At auction about

62 packages sold at from 25*s.* down to 21*s.* 6*d.* per cwt. for good yellow candied to ordinary dark rather dirty. A new parcel of about 5 tons fine yellow candied *New Zealand* honey is being offered at 45*s.* For good clean *Californian* 42*s.* is asked, and a parcel of fair *Chilian* (*viâ* Hamburg) was bought in at 28*s.* per cwt.

Ipecacuanha.—This article was about the only one to which any attention was paid at auction. Of 72 packages of *Brazilian* (Rio) 38 sold at firm prices, but without quotable alteration. Fair to good, 5*s.* 1*d.* to 5*s.* 4*d.*; fair to fine stout, slightly damaged, 5*s* 2*d.* to 5*s.* 6*d.* per lb. For good, partly picked, bids of 5*s.* 10*d.* to 5*s.* 11*d.* were rejected, 6*s.* 3*d.* being asked. Seven bales of *Colombian* (Cartagena) were bought in at 5*s.* per lb. Very firm. *Colombian* (*Cartagena*) root sold to-day at 4*s.* 6*d.* per lb. for fair quality, which shows the full parity of last week's private sales.

Kola.—Offering somewhat freely, and although it is said that a good many of the recent imports into Liverpool have been taken out of the market, prices here are still tending easier. Four packages good sound *West Indian* were bought in to-day at 1*s.*; of 71 packages *African* only 3 sold; good bright at 11*d.*, medium at 8*d.* to 8½*d* per lb.; 13 1-cwt. baskets of fresh African kolas of good quality sold at 6½*d.* per lb.

Nitrate of Soda.—Dull. Ordinary, 8*s.* 3*d.*; refined 8*s.* 3¾*d.* to 8*s.* 4½*d.*

Oils (Essential).—There has been a further advance in *Oil of cassia*, 6*s* per lb. having been paid this week for 70–75 per cent. *Star anise oil* is also higher, 6*s* 5*d.* per lb. having already been paid on the spot, while 6*s.* 6*d.* per lb. is now talked of as the nearest price, and, indeed, is already reported paid. *Citronella* oil quiet, but firm, at 1*s.* 4*d.* per lb. for good native brands. *Lemongrass* dull of sale, at 1⅝*d.* per oz for fair native. Mail reports from China state that it is rumoured that the new crop of star-anise oil will be a very small one; dealers are, therefore, unwilling to enter into contracts for delivery. The new cassia oil is expected to arrive at the treaty ports about the end of August.

Opium.—A fair amount of business has been done this week in *Soft-shipping* opium, of good quality, at rather better prices, 10*s.* 9*d.* per lb having been paid for the same kind which changed hands at 10*s.* 6*d.* per lb. the week before, and owners being now rather inclined to stand out for 11*s.* per lb. In *Druggists'* kinds no business worth speaking of is reported. Good to fine qualities are held for 7*s.* 9*d.* to 8*s.* 6*d.*, seconds for from 7*s.* to 7*s.* 6*d.* per lb. *Persian* opium is firm, at 12*s.* 9*d.* per lb. for good quality. New-crop opium of this kind, it is said, cannot be laid down here below 12*s* 6*d.* per lb., September shipment.

Orris-root —In good demand at firm prices. *Florentine*, good sorts, 71*s.* 6*d*; picked, 74*s.*; chips and shavings, 67*s.* 6*d.* per cwt., c.i.f. terms. Bold fine *Verona* orris, 55*s* per cwt., c i.f. terms.

Otto of Rose —We have received, under date July 15, the following communication:—"During the last three weeks all the exporting houses have been busy in checking the yield of the new crop. All agree that the crop is considerably larger than last year's. According to the latest reports it is about 78,000 oz., or nearly 18 per cent. more than last year's. This last estimation does not include any of the geranium oil imported into the rose-district for purposes of sophistication. As last year all made-up grades were sold at very high and profitable prices, the importation of geranium oil this year has been larger than ever. The lowest estimate figures it up to 19,000 oz., of which nearly half is distributed among the villages in the rose-district, whose otto always turns out of an inferior grade. In view of this state of affairs, the new prices should be correspondingly lower for all fine and pure ottos. Nothing of a definite nature, however, can be affirmed regarding the prospective prices of the new otto. This greatly depends upon the policy pursued by the various exporting firms, and mostly upon the combined position taken up by the leading dealers and perfumers in the consuming markets. Since 1892, when a Constantinople firm conceived the scheme of cornering the Bulgarian rose-market, the prices paid for otto in Bulgaria have been purely of an artificial nature. Hence the late prohibitive prices. On July 14 the firm in question caused another sensational surprise by buying up the whole of the otto of one of the villages in the county of Kazanlik at an extraordinarily high price. This being the first price declared this year, the news spread like fire throughout the rose-district, and the villages producing fine otto now demand very exorbitant prices. The leading Bulgarian houses object to this newly-declared artificial price, and are bent not to follow suit. As they are disposed to act jointly, the above declared price cannot be sustained, and in about a month's time fine ottos may easily be procured considerably lower, while the made up grades may be left unsold."

Platinum.—The price of platinum has lately risen very considerably, mainly in consequence of the increased demand for the metal by the electric-lighting industry. Within the last two years the output of one of the largest mines in the Ural mountains has been secured by an English syndicate, and recently a French company have taken the whole of the output of the remaining works at the enormous price of 12,500 roubles per pood, or about 20*l.* per lb The whole of the Ural mines' output is now sold for ten years ahead.

Quicksilver —The principal importers still quote 7*l* 5*s.* per bottle, second-hand holders offer at 7*l.* 4*s.*

Quinine.—Extreme quietness still rules in this article and no business has been reported this week.

Scammony.—*Root* is again dearer. Sales have been made at 40*s.* per cwt. and over, and the holders of the few available lots now require extreme prices. *Scammonium*, of fine quality, is exceedingly scarce—26*s.* to 28*s.* per lb. for good firsts, 20*s.* to 22*s.* for seconds.

Shellac.—There has been very little business in the market this week either at auction or privately. At the sales on Wednesday only 262 cases offered, the bulk of which was bought in at nominal prices, 38 cases sold at from 130*s.* to 134*s.* for good bright to pale second *orange*, and 129*s.* for bright but caky. Six cases free but livery TN sold without reserve at 110*s* per cwt., *Garnet*, fair free OCC at 104*s.*, and a few cases ordinary dark *Button* at 80*s* per cwt. Since the auction a small business in fair to good TN *Orange* has been done on the spot, 125*s.* to 127*s.* cash terms.

Spices.—*Pepper*: Quiet but steady, 308 bags Penang sold: fair 2⅞*d.* per lb. *Cloves*: Quiet, though the demand continues steady: 980 bales *Zanzibar* sold at 2⅜*d.*; privately, 700 bales Zanzibar sold at 2⅜*d.* October-December delivery. *Chillies*:—64 bales *Zanzibar* sold at 31*s.* *Capsicum*: 235 packages small red *Madras* were bought in at 26*s.* to 27*s.* *Ginger*: Cut *Cochin* brought steady rates; Jamaica sold at full prices, a few lots realising 75*s.* to 79*s* per cwt. *Pimento* firm; of 275 bags only one lot, fair dull, sold at 2¾*d.*

Sulphate of Copper, 14*l.* 17*s.* 6*d.* to 15*l.*; and Liverpool, 15*l.* 5*s.* to 15*l.* 10*s.* per ton, f.o.b.

Tea.—The tea-market keeps very steady for all grades, and a fair trade is doing, in spite of the approaching holidays. New Assams are coming in freely and are getting more useful for home-trade requirements, though a large quantity of invoices are still poor, and light in liquor. On Tuesday a very heavy Ceylon-sale was taken eagerly at full prices, and in some cases at a distinct advance. Quality is improving, and many invoices, which are fetching more money, show a better quality rather than a dearer market, but teas for price are fully ¼*d.* higher than the lowest point of nearly a month ago. New Monings sell slowly, but fine Kintuchs with quality and character are in demand, at full prices.

Turmeric —A very quiet market, with small sales of *Bengal* root at 9*s* per cwt., on the spot. There are offers in the market at 8*s.* per cwt, c.i.f. terms. At auction, on Tuesday, 500 bags were bought in at 10*s.* 6*d.* per cwt; parcels of medium *Madras* finger being bought in at 11*s*, and of split *Cochin* bulbs at 9*s.* per cwt.

Hygiama is the name given to a new German food resembling cocoa. Analysis shows that it contains 22·8 per cent. of albumens, 6·6 fat, 52·8 soluble carbohydrates. 10·5 insoluble carbohydrates, 2·5 per cent of salts, and 4·0 of volatile matter.